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SPECIAL WINDOWS EXPOSÉ

Unauthorized **Windows Vista**

*19 Secrets from
Our Microsoft Mole*

PLUS

*The Truth
Behind the Delay*

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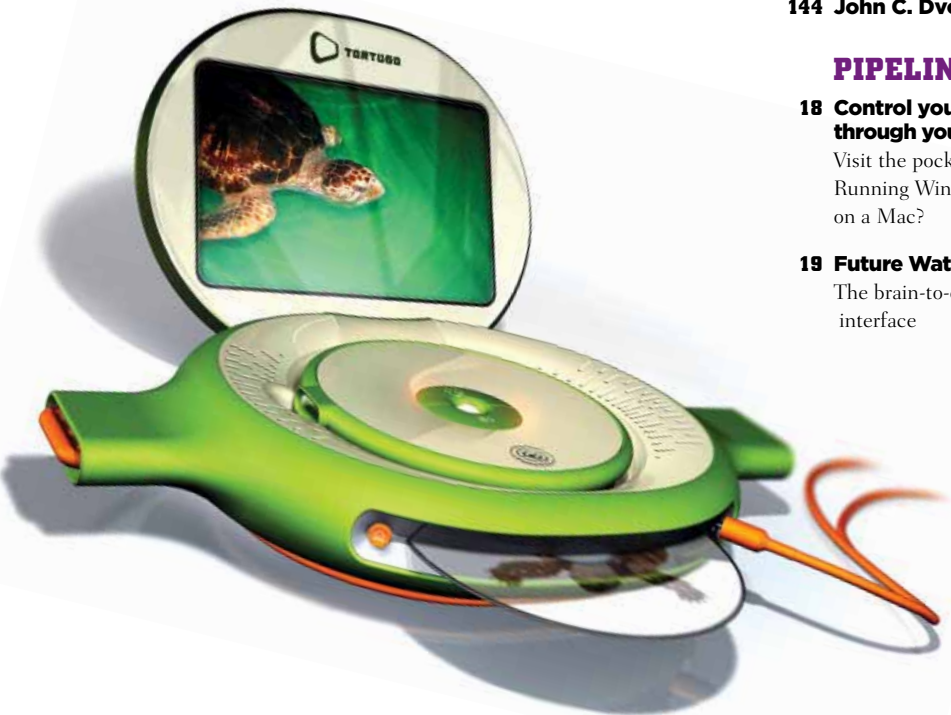
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PC Magazine, ISSN 0888-8507, is published semi-monthly except monthly in January and July at \$44.97 for one year. Ziff Davis Media Inc., 28 E. 28th St., New York, NY 10016-7940. Periodicals postage paid at New York, NY 10016-7940 and at additional mailing offices. POSTMASTER: Address changes to PC Magazine, P.O. Box 54070, Boulder, CO 80328-4070. The Canadian GST registration number is 865286033. Publications Mail Agreement No. 40009221. Return undeliverable Canadian addresses to P.O. Box 503, R.P.O. West Beaver Creek, Richmond Hill, ON L4B 4R6, Canada. Printed in the U.S.A.

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Want to learn more about Microsoft's impending operating system? Go to PCMag.com for all the Windows Vista info you need, including news articles, expert opinions, and screenshots of the test builds. See go.pcmag.com/vista.



FIRST WORD

BY JIM LOUDERBACK, EDITOR

Just as Windows 95 delivered a radically improved experience compared with Windows 3.11, Vista promises a similar leap.

A FERRIS WHEEL AND JAY LENO. That's what I remember most from Microsoft's gala launch of Windows 95. That operating system—a great improvement over its predecessor, Windows 3.11—debuted at a big party in a field on Microsoft's Redmond campus. But Microsoft didn't need the carnival or the comic; Windows 95 stood on its own.

Eleven years later, it's déjà vu all over again. Despite a recently announced delay, the long, slow slog to Windows Vista is drawing to a close. Just as Windows 95 delivered a radically improved experience compared with Windows 3.11, Vista promises a similar leap over XP.

Although it won't ship until early next year, you can actually start using it within a few weeks, if not already. Microsoft plans to offer a beta copy of Vista to anyone with a few bucks.

If you're like most *PC Magazine* readers, you enjoy sampling revolutionary products and applying their benefits before others catch a clue. But something as complex as an overhauled operating system resembles the original "Adventure" text game—at times it can be a tangled maze of many paths.

Lucky you, though. In this issue we reveal the results of hundreds of hours of Vista exploration. *PC Magazine* was granted unprecedented access to Microsoft's Vista development team; contributing editor John Clyman has been embedded inside Redmond for months. We've found nine great reasons why you'll want Vista now, along with lots of secrets to help you get the most out of Microsoft's latest OS.

Considering the Vista plunge? Come on in, the water's fine. Whether you like playing games, exploring the Internet, or enjoying multimedia, Vista will greatly enhance your Windows experience. Our collection of secrets and insights will help you navigate the deep pools and rocky coves of the new OS. We don't know what entertainment Microsoft will feature at Vista's launch party, but that's about all we're still foggy about.

Origami. I'm bullish about Microsoft's updated operating system, but I'm far less sanguine about its newest portable platform. Originally code-named Origami, it's now called the Ultra Mobile PC (UMPC). This Windows XP-based tablet weighs two pounds, includes a 7-inch touch screen but no keyboard, and

should last for around two hours between charges. Spawned via a sad ménage à trois between the Portable Media Center, the Tablet PC, and Windows CE, this unfortunate love child is doomed. It will inherit the failures of its parents, including tepid sales and poor industry support.

Microsoft has high hopes for the UMPC, promising that it "will eventually become as indispensable and ubiquitous as mobile phones are today." But the dearth of launch partners belies the optimism: Where were Toshiba, Dell, HP, and Gateway? Samsung will deliver a UMPC, but it won't confirm a U.S. launch. Asian PC maker Asus is the lone vendor that has promised the tablet to the U.S. That's hardly a ringing endorsement.

Considering a UMPC? Think about what you'd use it for. The upcoming Sony Reader for e-books promises far better battery life in a much more readable format. Want a tiny, extremely mobile PC? Both the OQO and Toshiba's Libretto offer more, albeit at higher prices. We're looking forward to testing the UMPC, and I'll even promise to carry one for a few weeks and report back. But my prognosis, so far, is not good. □

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You can contact Jim Louderback at Jim_Louderback@ziffdavis.com. For more of his columns, go to go.pcmag.com/louderback.



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the BLACK EYED PEAS



▶ This year, the hands-down-choice band for the Honda Civic Tour was The Black Eyed Peas. Their funky style and off-the-hook energy are a perfect match for the 2006 Civic, redesigned with more spirit, performance savvy and flat-out fun than ever. As part of the tour, The Peas got to add their unique flair to a shiny new Civic Hybrid. To view their customized ride and get info on when The Peas will be driving their groove to your town, go to hondacivictour.com.



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SAFEGUARDING YOUR PHOTO COLLECTION

Thanks to Lance Ulanoff for an excellent article ("Are Your Photos Safe?", go.pcmag.com/lu photossafe). I find that people are very gullible. Many of them don't understand the capitalistic system we live under. Some folks really think that a Web site is their personal storage! Many don't know that photos posted online can be pilfered

and used elsewhere if good enough. I don't post my images anywhere, even though I get dozens of offers from dotPhoto and others.

I keep my images in my iPhoto—all 15,000 of them, across three libraries. Each one is backed up weekly to three separate external FireWire drives, of which at least one is kept off-site at all times on a rotating basis.—Jorge Moro

C'MON, MICROSOFT

I read Jim Louderback's column in the April 11 issue, then searched the Internet for the elusive retail copy of Windows XP Media Center Edition, but I had the same results.

It seems that all you can purchase is an OEM copy. I found several Web sites (Newegg.com, Royal Discount, PCDirect.com, TigerDirect.com) that sell the OEM version at a price ranging from \$114.95 to \$139.99 (with remote).—Russ

Yes, it's weird that Microsoft makes you get it through this back channel. I've seen it for sale with just a remote control or another piece of cheap hardware. They should just sell it outright.—Jim Louderback

CONNECTING IN TRANSIT

"The Well-Connected Traveler" (March 21, page 68) showed up at the perfect time for me. I'm planning a summer trip to Europe; it will be my first time going overseas. I'm hopelessly addicted to my gadgets and to the Internet, and after reading this piece, I feel confident I'll be able to manage technologically during my vacation. Thanks for all the great ideas about what to bring; I never manage to pack light, but this should help me select

the best options. Now, if only I had an article instructing me on how to get dirt-cheap airfare.—Kristin Carew

Glad you liked it, Kristin. Remember, Skype is a great way to stay connected. And for decent airfare, I love Kayak.com here in the U.S., but if you're flying around Europe, their low-cost airlines can be difficult to find. Check out Ryan Air, EasyJet, and Air Berlin for starters. Opodo offers a continental variant of our own Expedia and Travelocity, while OctopusTravel

.com aggregates discount lodging and more. Oh, and have fun!—Jim Louderback

Ironically, I just finished reading your March 21 issue on a flight from Burbank to Phoenix. I'm sending you this e-mail during my layover en route to Baltimore at gate A21 on the free Phoenix Sky Harbor International Airport wireless network. Signal strength, excellent. E-mails received. Thanks, Phoenix.

—Larry Yaffe

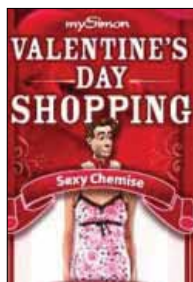
APPLE'S IPOD HI-FI

I liked Lance Ulanoff's column, "The Apple Effect" (go.pcmag.com/appleeffect). He mentions the new speakers and Apple "eating its young." I felt that way when Microsoft benefited from and then crushed products like WordPerfect. But I sense this is different. Other speaker systems will continue working—and likely continue selling—just fine.

I am very enthusiastic about my Apple iPod Hi Fi speakers—and I'm glad Apple is having a shot at that side of technology. I already own four or five other iPod speaker products, but the sound on these is the best,

ABORT, RETRY, FAIL

BY DON WILLMOTT



Lookin' good, Simon!



He lives right down the street from the Giffs.

That's weird. We thought Kelly was a hard worker.



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and the possibility of running on batteries now and then has its appeal. For now the speakers are on top of the TV, using their audio-in connector for the TV (and DVD) sound input into the speakers. They get gorgeous sound that way. And using my video iPod, mounted on the speakers on top of the TV, I can run a line out from the iPod into the DVD player and so into the TV. This lets me show good movie images from the iPod on the TV with sound coming through the iPod Hi-Fi speakers. Since the speakers are so new, I thought you might be interested in this note on how one customer uses them. Can the iPod TV be far behind?! —Bill Youngs

Glad you enjoyed it, Bill. I hope you're right about Apple encroaching on the third-party market. If this serves to grow it, that's a good thing. Still, only time will tell. As for the way you're using the Hi-Fi speakers and your iPod with video, I am suitably impressed. —Lance Ulanoff

WHY NOT LIMIT WINDOWS ADMINISTRATOR ACCESS?

"The Sorry State of Security" (February 21, page 78) was a great article; I hope that everyone who ever buys a computer will read it. The problem with computers is that they allow such a level of communication that everyone wants to play. But people forget that this tool simplifies others' communication to you, whether warranted or not. Unlike the phone system, which can be tapped or called only so many times a day, computer communication lets you receive a flood of information without much effort.

I think that your article missed one important point. It's strange that Microsoft would default every user on Windows XP Home and Professional as Administrator; that is not the case in Pro when you are in a domain scenario. This opens up the floodgates for anything to override security and install itself. When our company migrated to XP, we immediately revoked this level of access to anyone who didn't explicitly need it. Viruses and spyware decreased dramatically, and our OS reload percentage dropped to almost nil.

This posed other challenges, such as forcing IT to do more software installations and to access computers remotely to do things the users can't, but the payoff was great. About six months ago I reloaded my neighbor's computer for the third time. As I run mostly in a domain environment, I didn't pick up the Administrator glitch in XP Home. On this third attempt, I noticed that, on newly created user accounts, Administrator was the default. Users could do whatever

they wanted with the computer, and so could anyone on the Internet. So I created the users myself and revoked Administrator. I have not heard a peep lately.

Thank you for a wonderful breakdown of the problems plaguing the future of computing. —Juan Gamboa

It's an excellent point. We did a Security Watch last year on trying to run as a limited user (go.pcmag.com/limiteduser). Unfortunately, it's very difficult to do in a home environment. Microsoft is partly to blame, but so are ISVs who don't bother to make sure that their apps (games, especially) work in limited-user mode. Vista should really improve this situation, since even admins don't run with complete privileges all the time. Of course I'm sure it won't take long for social engineers to exploit this. —Ben Z. Gottesman

ON VENDOR RESPONSIBILITY

I disagree with the degree of responsibility you place with vendors. No one would expect GM or Ford, before selling you a car, to make sure you knew how to drive. Or track that you didn't exceed the speed limit or follow too close. Nor do we expect automakers to tell us that the trunk can be used to carry groceries or that we need to be wary of icy roads. Yet we expect people to buy PCs without any idea of what they'll do with them or the attendant risks.

PCs are incredible devices, but deciding to purchase one shouldn't be considered as trivial as buying a magazine about PCs.

—P.A. Gendron

Years ago my dad bought a Ford Pinto under the assumption that they had built a car that wouldn't blow up. Fortunately he sold it before finding out how dangerous that assumption could be. —Ben Z. Gottesman

THE DOG-EAR TEST

I bring the latest issue of *PC Magazine* with me to the gym and read through it while working out on the treadmill and stair climber. Since there are no notepads or voice recorders to be bothered with, a dog-eared page is my best reference for articles and tips I want to revisit when I'm back at my computer. Thus, each issue's merit is based on the number of dog-ears. Sometimes I have none, sometimes two or three, but April 11's brought in seven. Thanks for the helpful edition. —Pat Carroll

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CORRECTIONS & AMPLIFICATIONS

We gave a direct price of \$3,299.99 for the T-Mobile SDA (April 11, page 69); the correct price is \$299.99.

PIPELINE

WHAT'S NEW FROM THE WORLD OF TECH

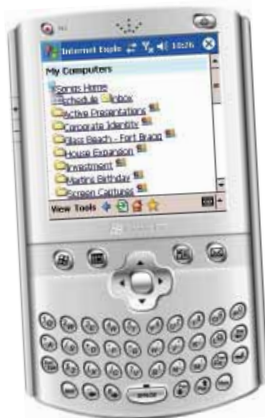


WINMAC

When Apple confirmed last year that it would begin building computers with Intel chips, predictions of dual-boot systems running both Windows and the Mac OS abounded. Now, with official approval from neither Microsoft nor Apple, several code warriors are pulling that off.

AirmanPika, a member of the OSx-86Project (forum.osx86project.org), has posted photos of his iMac running Windows Media Center Edition 2005, as shown above. Our own experts have loaded Windows XP on Mac systems and found it to run faster on Apple computers than it does on many PCs. Find the details at go.pcmag.com/windowsonamac.

In *PC Magazine's* cover story on Apple's move to Intel last year, Apple spokesperson Natalie Kerris said, "We're not shipping and supporting Windows, but we're doing nothing in our hardware designs to preclude running it." And where there's a will, there's a way.—SR



Phone Home

Free services are giving almost anyone with a cell phone remote access to PCs.

YOU'RE ON THE GO, YOU NEED A presentation that's on your home PC, and all you've got is a cell phone. What to do? A new crop of online startups is solving such remote-access problems—and you don't need a smartphone or a phone running Microsoft Windows to use them. SoonR (www.soonr.com) and Avenu (www.avenu.com) provide no-cost solutions for retrieving and sharing anything on your remote PC, even if you're carrying a cheap phone.

SoonR's service is in beta now, but that hasn't stopped tens of thousands of people from signing up. The service requires you to load a small client on your PC, but no software is needed on your phone. That, in addition to SoonR's focus on business users, differenti-

ates the service from big players such as Citrix Online's GoToMyPC and Orb Networks' Orb.

"There are almost a billion phones out there that aren't considered smartphones," says Song Huang, SoonR's cofounder and VP of marketing. The service's only phone requirement is a WAP browser, so you might, for example, access your remote files using Opera. SoonR has also integrated its service with Google Desktop Search and X1, so you can quickly find files by typing queries on your phone. The service will remain free, although premium extensions will be available.

Avenu offers similar services, also costs nothing, and integrates with the free Motorola Share service for sharing images. If your phone is your constant companion, take note.—Sebastian Rupley



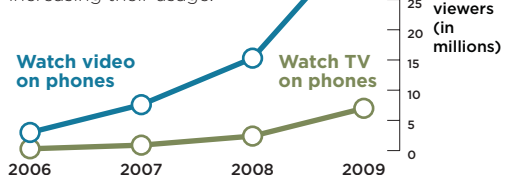
POCKET DOCTOR



Why shouldn't checking your body's status be as easy as glancing at the temperature gauge in your car? At the recent CeBIT show, Vodafone showed off its *biozoom* device, which tests a person's water levels, enzyme levels, body fat percentage, and more, then displays the results on a mobile phone.—SR

MOBILE TV TAKES OFF

As carriers, content providers, and marketers are ramping up their mobile TV and video initiatives, 3G subscribers are also increasing their usage.

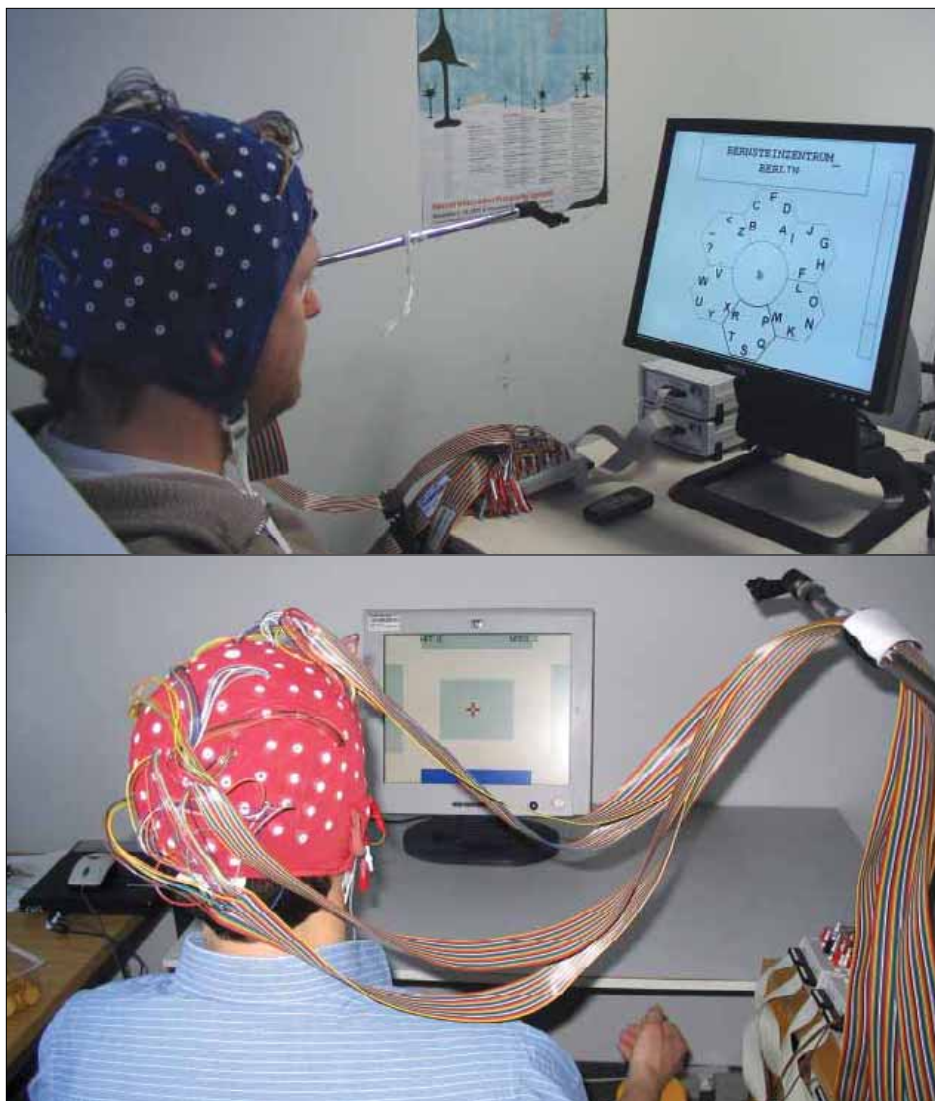


Source: eMarketer, March 2006

QUICK ON THE DRAW How fast does your brain process information? At www.positscience.com you can take an online test and determine the precise answer. The process takes 10 minutes, and results are compared to averages for your age range, using charts.

YEPG Proudly Presents, Thx for Support

FUTURE WATCH



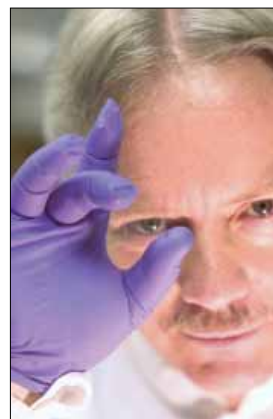
Thinking It Through

WHO DOESN'T YEARN TO HEAR "YOUR WISH IS MY COMMAND"? That's the idea behind the Berlin Brain-Computer Interface (BBCI), shown here, which is being developed by Fraunhofer FIRST and Benjamin Franklin University in Europe. The BBCI uses the brain's electrical activity, in the form of an electroencephalogram (EEG).

Electrodes attached to the scalp—128 of them—measure the brain's electrical signals, which are amplified, transmitted to a computer, and converted into actions. Users can already control cursors and software applications by imagining motions.

"Electrical activity in the brain reflects the conception of a particular behavior, such as moving a hand or foot," says principal researcher Benjamin Blankertz. BBCI may allow paralyzed people to write documents and control prosthetic and electronic devices. It could also have a role in next-generation computer games. No controller required!—SR

YYePG Proudly Presents, Thx for Support



SMART GLASS

Consider the possibilities of a "mirage display," visible one minute on a pane of glass and gone the next. Oregon State University electronics engineer John Wager (shown) has invented the world's first transparent integrated circuit, which could be the basis of now-you-see-it, now-you-don't displays.

In conjunction with a remote sensor, "a pop-up display could suddenly be visible to a driver on a car windshield to make him aware of a potential accident," says Wager. There are many other potential applications for "smart glass," from advertising to medical concepts. The breakthrough may even create entirely new industries.

Wager developed the see-through circuit using the transparent conductor material indium gallium oxide. Hewlett-Packard has already licensed the technology for a variety of products. Keep your eyes peeled.—SR

» **MORE ON THE WEB**
Want the full story on these reviews, plus news and opinions? Go to www.technoride.com, the car site for tech fans.

MERCEDES ML 350

\$40,525 to \$69,250

●●●●○

PROS LCD panel in all models. Reasonably priced nav system available.

CONS The Comand controller is complex to use. No Bluetooth until the 2007 model this summer. Options are pricey.

BOTTOM LINE Though tech and entertainment options abound in the second-generation M-Class SUV, the Comand cockpit controller is tough to use.

NEARLY IRRESISTIBLE

MERCEDES-BENZ PACKS A HOST of technology and entertainment features into its second-generation midsize M-Class SUV. Every M-Class includes a 7-inch in-dash LCD panel. On the dash is a fussy Comand control dial that has lots of buttons, but this device doesn't compare well with the Audi MMI controller or with the console-mount Comand knob in the new Mercedes S-Class. An audio line-in jack and three power sockets come standard; an iPod jack, backseat DVD, Sirius satellite radio, and a Logic 7 sound system are available as options. A hands-free phone adapter runs about \$1,000; dealer-installed Bluetooth will cost about \$500 when it's available this summer in the 2007 model. Because the LCD is standard, the passable DVD nav system can be added by the dealer for about \$1,300—very reasonable by Mercedes or BMW standards.

The ML 350 comes with all-wheel drive, seven-speed automatic transmission, and roomy comfort for four passengers and baggage. Unlike the first generation (1998 to 2005), the new M-Class no longer rides like a truck. Most buyers should be satisfied with the V6 ML 350 at about \$50,000, passably equipped; add \$10,000 for the V8 ML 500. —BH



GREEN CAR TECH

In February, Hymotion unveiled the Plug-In Hybrid Electric Vehicle (PHEV) technology for hybrid cars: Users can charge their PHEV batteries in any normal 120V outlet, enabling a hybrid car to travel longer distances solely on battery power and resulting in fuel efficiencies reaching 100 mpg.

The kit, expected within a year, is under development for the Lexus Rx400h, Toyota Highlander hybrid, and Toyota Camry hybrid. —Bary Alyssa Johnson

YYePG Proudly Presents, Thx for Support



BILL HOWARD

DIESEL CARS ARE BACK

WHAT WOULD IT TAKE to get you into a diesel engine car? Will you wait till diesels run clean, and until there's no engine clatter? Until somebody makes diesel airplane engines? Until a diesel engine car wins an auto race? Done, done, and done.

In March, an Audi won the Sebring 12-hour endurance race, four laps ahead of the gasoline-powered runner-up. This is the first time a diesel engine vehicle has triumphed in a major automobile endurance race, and it's a shot in the arm for the image of such vehicles. Diesels account for nearly half of all passenger cars sold in Europe but for only a fraction in the U.S.

Technology has eliminated much of the noise that diesel engines make; there's none inside the car and hardly any outside. A sophisticated common-rail fuel-injection system propels an atomized stream of fuel into the cylinders at twice the speed of sound, ensuring that air and fuel are properly mixed. They start almost instantly, even in the cold.

As for running clean, this year the EPA ordered fuel companies to stop whining and start refining diesel fuel with low levels of sulfur, the pollutant that's responsible for the rotten-egg smell and black soot. Most diesels also run on biodiesel—fuels made in part from vegetable oils or animal fats. So if the Jetta ahead of you smells like a McDonald's, now you know why.

New technologies, such as particulate filters (here now) and the injection of urea into the exhaust stream (coming), make diesels even cleaner.

In European countries, Herr Doktor Rudolf Diesel's 1892 invention purrs along under the hoods of one-third to two-thirds of all cars. But here in the U.S., only a dozen passenger-vehicle models with diesel engines are offered: a bunch of brawny American trucks/SUVs, the Mercedes-Benz E-Class, and four Volkswagens. California, Maine, Massachusetts, New York, and Vermont effectively outlaw diesels, and some automakers say they won't introduce diesel cars until they're allowed in every state.

Still, I don't think you can deny that we're entering a golden era of performance coming from a wider array of engine types: gasoline or diesel boosted by hybrid, turbocharged, or supercharged technologies.

If you're a stop-and-go driver, hybrids make sense. But if you rack up a lot of highway miles and/or spend a lot of time idling, a diesel may be your best bet. Wait a year and you'll see more choices. Diesels are definitely back.



BLUE&ME: Low-Cost Telematics

The technology star of the 76th International Motor Show in Geneva was Blue&Me, the first product of a joint venture by Fiat and Microsoft. The device, a low-cost telematics box, works as an in-car communication system that enables hands-free Bluetooth-based talk, voice recognition, music player connectivity for MP3 and WMA files, and remote diagnostics. It also has the potential for turn-by-turn navigation downloads via cell phone.—BH

YYePG Proudly Presents, Thx for Support

FIRST LOOKS

WHAT THE RATINGS MEAN: ●●●●● EXCELLENT | ●●●●○ VERY GOOD | ●●●○○ GOOD | ●●○○○ FAIR | ●○○○○ POOR

INSIDE...

LIKE THIS SPIFFY OLYMPUS E-330 DIGITAL SLR, many of the products covered in this edition of First Looks look familiar but feature subtle yet important differences that set them apart from all that's come before. The E-330, for example, is the first D-SLR with a live-view/articulating LCD screen. HP's Pavilion Media Center (in our hardware section) looks like any other MCE desktop, but it's our first Viiv-certified system. We have hands-on reviews of Lenovo's new laptops, small business NAS's, and Samsung's Nano competitor. Plus, there's advice on how to make some of your most important purchases: photo printers, parental-control software, and Windows Mobile Devices. Come check out products you'll be buying today.



Olympus Evolt E-330

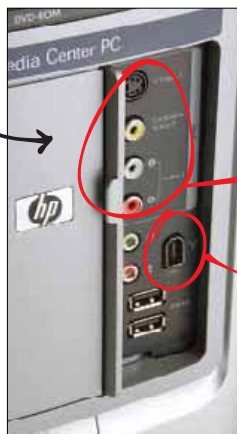
Flawless? No, but for now, this camera stands apart from all other D-SLRs on the market. Full review starts on page 32.

FIRST LOOKS

HARDWARE



Sliding door hides the easy-access ports



Analog input for VCR

Easy-access FireWire port for DV camcorder

HP Personal Media Drive for unlimited storage

YYePG Proudly Presents, Thx for Support



HP Pavilion Media Center TV m7360n PC

As a Media Center PC, the m7360n

has some outstanding features, such as the Personal Media Drive, wireless networking, and good dual-core performance.

\$1,200 direct, without monitor

go.pcmag.com/hpM7360n



MEDIA MAVEN

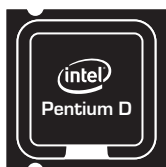
THIS PC LOOKS BORING, BUT THE m7360n is a powerful media center system. It can handle regular multimedia projects like composing, encoding, and burning video DVDs, and its included TV/PVR capability makes it a welcome addition to any home office or bedroom, especially when a family feud breaks out in the living room over whether to watch *Lost* or *American Idol*. It's also Viiv-certified, so when Viiv takes off, you're ready.

Thanks to its dual-core Pentium D 9 Series processor and 2GB of memory, the Media Center operates smoothly, and the picture from the internal TV tuner is jitter-free. The m7360n also has instant-on capability, letting you put the system into a quiet, deep sleep (no rotating fans) from which it can wake within seconds.

I'm particularly fond of HP's Personal Media Drive. This unique component lets you easily swap hard drive cartridges that also hook up to other PCs via USB. It gives you virtually limitless storage (drives cost about \$1 per GB). The more storage the better, especially when you're recording TV and video. The m7360n also has a LightScribe dual-layer DVD SuperMulti drive that can read and write DVD±RW discs and can read DVD-RAM.

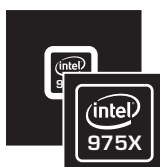
I'm a big fan of the HP Pavilion Media Center TV m7360n PC. Families looking to do more than just view photos, videos, and TV should seriously consider it.—*Joel Santo Domingo*

THE CURRENT FORMULA FOR VIIV



Processor

+



Chipset

+



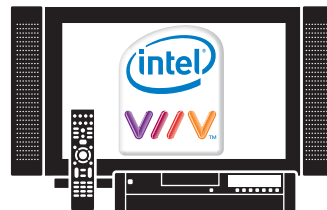
Network card
YYePG Proudly Presents, Thx for Support

+



Media Center

=



STYLE MEETS MEDIA SAVVY

SPORTING A SLICK-LOOKING CASE AND the latest Intel Viiv hardware, the Sony VAIO VGC-RC210G is one seductive, powerful Media Center PC. Our tests prove that this desktop has enough oomph to breeze through all your challenging multimedia projects, from editing video and creating graphics to burning DVDs of exciting (at least to you) holiday snapshots and home movies.

The RC 210G's premium dual-core Pentium D 930 processor helped it complete a Windows Media Encoder benchmark test about 40 percent faster than similarly configured single-core systems and about as fast as the Editors' Choice HP. Better yet, its 320GB hard drive offers plenty of room to house all the data you accumulate as you live your digital life. Moving content onto the RC210G is easy, thanks to the 9-in-1 memory card reader, a dual-layer DVD burner, and integrated Wi-Fi networking. Using Microsoft Windows Media Center 2005 OS with an internal TV tuner, the system handily records live programming TiVo-style, too.

There are drawbacks, such as the system's ugly Microsoft IR receiver and the weak 3D graphics card. And the storage isn't as convenient to upgrade as that of the HP m7360n. Still, the RC210G is an excellent home workhorse and multimedia showcase.—*JSD*

Sony VAIO VGC-RC210G

This attractive Media Center PC is a great option if you're looking to trick out your home with a chic desktop that has oodles of storage space and serious dual-core muscle.

\$1,380 direct, without monitor

go.pcmag.com/sonyrc210g



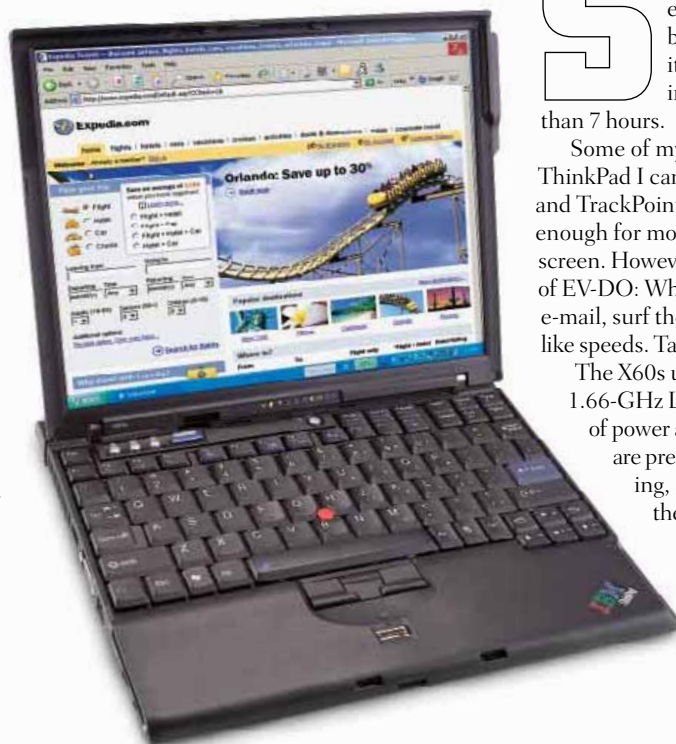
An amazing 7 hours
of battery life!



Lenovo ThinkPad X60s

The 3.5-pound ThinkPad

X60s is ideal for anyone who spends more time on the road than in the office. For many, it's pretty much the perfect ultraportable. **\$2,299 direct**
go.pcmag.com/thinkpadx60s



A PERFECT TRAVEL COMPANION

STAYING CONNECTED AND EDGING OUT THE competition are two musts for any business traveler, and the Lenovo ThinkPad X60s helps you do both. This 3.5-pound laptop has great connectivity by way of Verizon's EV-DO. And, as we found in testing, it can work off battery power for more than 7 hours.

Some of my favorite things about this system, as with any ThinkPad I can get my hands on, are the unmatched keyboard and TrackPoint. Although the X60s's 12.1-inch screen is good enough for most travelers, as a writer I prefer a slightly larger screen. However, I certainly can't complain about the inclusion of EV-DO: While roaming Manhattan, I was able to access my e-mail, surf the Web, and download video clips at broadband-like speeds. Talk about staying productive!

The X60s uses a low-voltage Intel Core Duo processor, the 1.66-GHz L2400, which helps it achieve a pleasing balance of power and battery life. If your primary tasks on the road are presenting slide shows, managing e-mails, Web surfing, and working in Excel or Word files, the X60s is the ultraportable for you. —Cisco Cheng

SEXY, SLEEK, POWERFUL

THE SONY VAIO VGN-SZ170P SUCCESSFULLY combines good looks with interesting features—and a lot of power.

Two features I'm crazy about, and that are rarely found on a sub-4-pound system, are the wide 13.3-inch LCD and internal DVD±RW drive.

To extend battery life, Sony integrates a hybrid graphics system. A switch above the keyboard lets you choose between the nVidia GeForce Go 7400 graphics chipset (for better performance) and the integrated Intel GMA 950/945GM graphics chipset (for better battery life). It's a great concept, but you have to reboot every time you flip the switch. When I used the Intel graphics setting, I got only 42 extra minutes of battery life, for a total 4 hours 15 minutes. I expected more.

The SZ170P comes with only two USB ports, and I think every laptop should have at least three. Nonetheless, I'm pleased about the large 100GB hard drive, and I love the addition of the 0.3-megapixel webcam—perfect for the growing number of video chatters and Skype users. As long as it's not a long trip, anyone who travels with the SZ170P will be very pleased. —CC

YyEPG Proudly Presents, Thx for Support

Razor-thin
13.3-inch LCD



Sony VAIO VGN-SZ170P

For a 3.8-pound system, the Sony VAIO VGN-SZ170P offers an irresistible combination of sleekness, cool features, superb performance, and top-of-the-line components.

\$2,799 direct
go.pcmag.com/sonys170p



Antenna for
Cingular's
Edge network

Lexmark E120n

With its small footprint, fast performance, and network connectivity, the Lexmark E120n is a good choice for sharing on a home or small-office network.

\$149 direct
go.pcmag.com/lexmarke120n

●●●●○

NETWORK POWER ON A PERSONAL PRINTER

WITH A BARGAIN PRICE, SMALL size, and paper capacity suitable only for light-duty printing, the Lexmark E120n is decidedly a personal laser printer. This one, however, has networking capabilities, which makes it a good choice for a home office or very small office. It's still a monochrome printer, though, so if you plan on printing a lot of color graphics or photos, an ink jet is a better solution.

Setup is as simple as it gets. The E120n's speed and text quality is, according to our tests, more than good enough for any text you're likely to print. Graphics qual-



ity is just okay, which is typical for most monochrome lasers. For internal documents it's fine, but I wouldn't use it if I were trying to impress a potential client.

The only real drawback is the low paper capacity. If you print as few as 50 pages a day, you'll be refilling the tray roughly every third day, which can be quite annoying. But if that's not a concern, the E120n offers a better balance of speed and quality than its direct competition, and it's a network printer at a stunningly low price. —M. David Stone

THIS DREAMY DEVICE DOESN'T WORK

THE IOMEGA SCREENPLAY SEEMS like a dream come true: a 60GB hard drive that plays video, photos, and music on a TV. Sadly, the ScreenPlay has limited playback capabilities, is pricey, and simply doesn't work.

The ScreenPlay claims to support most flavors of MPEG video, but on our tests, I had trouble playing unprotected MPEG-4 files. QuickTime, Real, and WMV aren't supported, either. Photo and music playback is better, although still not top-notch. The ScreenPlay doesn't support some common audio formats like M4P/M4A and WMA. And if you do have music that's supported, good luck finding it. The navigation is awkward: You must play or scroll through all your music just to find the song you want.

And yet, that's not the worst part: The ScreenPlay is *slowooooooow*. Unbearably slow. It took me 14 minutes to boot up to a navigational screen on my TV, and then once I got there, clicking on any of the icons resulted in a 5-minute—or longer—wait.

The Iomega ScreenPlay needs work—lots of work. First, the performance needs to be fixed so that you can actually browse and view content. Adding playlist support, better file navigation, and search capabilities should also top that “needs fixing” list.

—Joel Santo Domingo



Iomega ScreenPlay

Great in concept but a failure in execution, the Iomega ScreenPlay has more things wrong than right. Don't buy this product.

\$220 direct
go.pcmag.com/iomegascreenplay

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YYePG Proudly Presents, Thx for Support

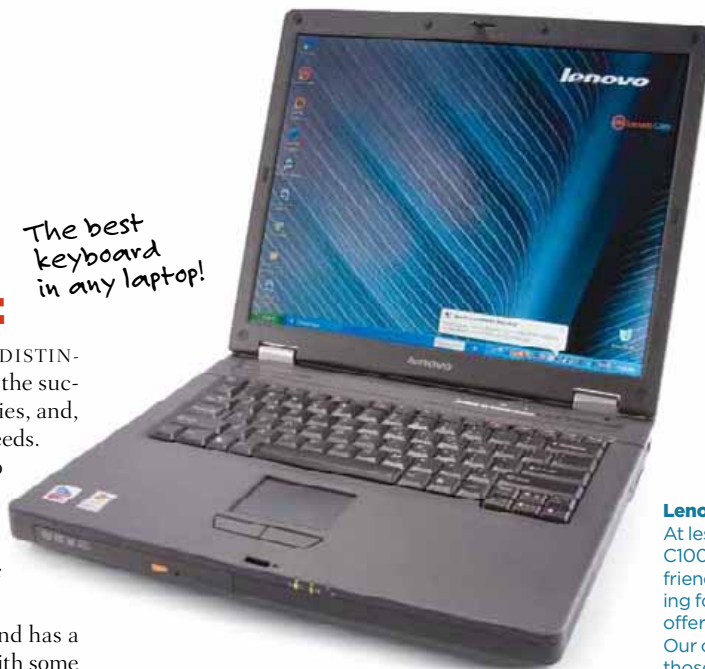
LENOVO GOES FOR VALUE

LENOVO IS TRYING HARD TO DISTINGUISH its new 3000 series from the successful high-end ThinkPad series, and, if judged on looks alone, it succeeds. Still, even though the Lenovo 3000 C100 is a capable value notebook, it doesn't distinguish itself from popular value offerings from Acer, Dell, and HP. If anything, it's less attractive than any of those three.

The C100 is thick, weighs 6.3 pounds, and has a 15-inch display. Lenovo endows this beast with some good features, such as four USB ports and an S-Video port. In addition, the 80GB hard drive is fairly roomy, and the DVD+R dual-layer drive is better than the combo drives found on most budget laptops.

Though not the fastest laptop on the market, the C100, as our testing shows, is capable of handling everyday Office applications. As dual-core optimized apps come down the line, however, this single-core

The best keyboard in any laptop!



Lenovo 3000 C100

At less than \$1,000, the C100 is decidedly budget-friendly. But if you're looking for a true value, better offerings are available. Our online review details those offerings.

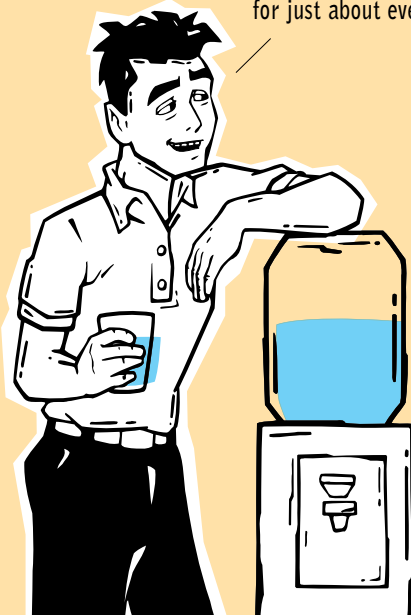
\$999 direct
go.pcmag.com/lenovoc100



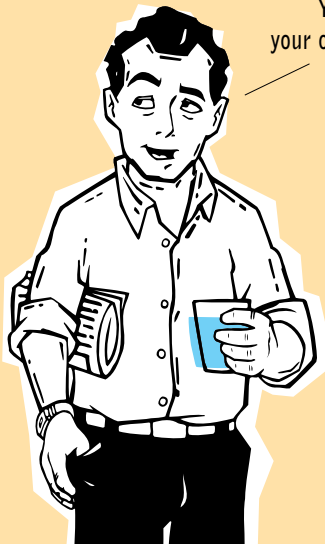
processor system may be begging for an upgrade sooner than you'd like.

Five months ago, I would've told you that any laptop from Lenovo is worth every penny. But with new, more powerful, sleeker systems available from Dell and HP for the same price, it's hard to recommend the C100, even if it shares a stable with the excellent ThinkPad line of notebooks.—Cisco Cheng

Stan, I depend on that Ricoh printer for just about everything.



You're still getting your own lunch, right Jerry?



ricoh-usa.com/itchannel

1-800-RICOH-43

©2006 Ricoh Corporation



Ricoh dependability moves your ideas forward.

RICOH™

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BUYING GUIDE

Dedicated Photo Printers

Large, 2.4-inch LCD for easy photo editing



EPSON PICTUREMATE DELUXE VIEWER EDITION



The Epson PictureMate has been our high-end Editors' Choice for so long that we keep thinking the next printer we test will surely replace it. But it's stayed on top, thanks to its true photo-quality output, memory slots, 2.4-inch color LCD, kiosk-style print menus, battery option, and reasonable 29-cent cost per photo.

Its six-color ink system helps produce high-quality, waterproof, smear-proof images. You can print easily from your camera, an external CD or ZIP drive, a USB memory key, memory card, or your computer. A color LCD screen lets you easily preview your prints, and an intuitive menu offers options such as cropping and resizing of images. And if you love your PictureMate so much that you want to take it with you everywhere, fear not: With a carrying handle and optional battery, the PictureMate is designed for maximum portability.

\$199.99 direct
go.pcmag.com/epsondeluxe



STAY AWAY!

Lexmark P315

The lack of resistance to water makes photos printed on the P315 easy to ruin just by handling.

\$99.99 direct
go.pcmag.com/lexmarkp315



Samsung SPP-2020 Digital Photo Printer

At 42 cents per photo, the SPP-2020 is far less of a bargain than its price suggests.

\$80 street
go.pcmag.com/samsungspp2020



IF YOU HAVE A DIGITAL CAMERA AND YOU WANT the freedom to print your own photos—even if it's moments after you take them—a dedicated photo printer is the way to go. A dedicated photo printer qualifies more as a camera accessory than as a computer peripheral because you don't even need a PC to print. And you can find a dedicated photo printer to fit just about any budget, with prices ranging from \$80 up to about \$400 for printers aimed at casual users, and up to four figures for more serious photographers.

Sure, you can print photos on almost any ink jet printer, and you can even print them at sizes larger

than 4 by 6 inches. But part of the goal of dedicated photo printers is to make printing your photos as easy as dropping off a roll of film at the drug store. Few standard computer printers offer the same ease of use for printing photos. And even the ones that do don't offer the same portability. Because they print at a maximum of 4-by-6 or, in some cases, 5-by-7 format, virtually all dedicated photo printers are small and light enough to take anywhere.

Output quality is the most important, yet most difficult, issue to check before buying. Most photo printers will print at least some photos at true photo quality, so take any samples a store shows you with a grain of salt.

YEPG Proudly Presents, Thx for Support



ANALYST'S VIEW

BY M. DAVID STONE

Almost as important is what the printer can print from: cameras, computers, or memory cards. Nearly all dedicated photo printers today include a PictBridge connector, which lets you use a PictBridge-enabled camera's LCD and menus to print. Most photo printers can also connect to a computer by USB cable, which may or may not be included with the printer, and they typically come with software that lets you manage your photos as well as edit and print them. This can be handy if you want to reprint photos later. Unless you're convinced you'll never want to store your photos on your computer and you have another storage plan, make sure that the printer can connect to your computer.

You'll generally have to pay more for printers with memory card slots, because the slots are usually paired with a color LCD and built-in menus. The combination lets you preview photos as well as crop or enhance them, much like using a photo kiosk. If a printer offers these features, find out what editing tools it has; some printers offer lots more than others. And don't overlook the LCD size. It's much easier to preview photos on a 2.5-inch screen than on a 1.5-inch one.

You'll want to consider paper size, cost per photo, and portability. In addition to the usual 4-by-6 size, a few photo printers offer smaller or larger paper sizes, or both.

Cost per 4-by-6 print ranges from about 28 cents up to more than 60 cents. If you don't print a lot of photos, the cost may not matter much, particularly if the printer offers some other feature you want, like a low initial price or fast print speed. But the more photos you print, the more critical the cost per photo will be. In almost all cases you can buy packs of paper and ink or paper and dye rolls for a specific number of photos, so you'll know exactly how many photos you can print and at what price: simply divide the price of the pack by the number of photos it can print. —MDS

RECENT REVIEWS

Canon Pixma iP5200R	\$230 street	●●●●○	Fast, prints great photos, and has support for wireless networking.
Olympus P-11	\$150 street	●●●●○	It's compact, inexpensive, and delivers swift 4-by-6 prints.
Dell Photo All-in-One 964	\$199.00 direct	●●●●○	It's not fast, but it's fine for mundane home office work.
Kodak EasyShare 500	\$199.95 direct	●●●●○	This Kodak prints excellent 4-by-6 photos and has plenty of ports.
Canon Pixma MP950	\$399.99 direct	●●●●○	A talented multifunction printer that will tackle almost any printing task.
Canon Pixma iP6600D	\$199.99 direct	●●●●○	Foremost an excellent photo printer. Text output is average.

MORE DEDICATED PHOTO PRINTER REVIEWS ONLINE
Check out all our photo printer reviews at go.pcmag.com/photoprinters

OTHER OPTIONS

PRINT BIG HP Photosmart 475 GoGo Photo Printer

The HP Photosmart 475 is portable, easy to use, and one of the few that print 5-by-7 photos.

\$250 street
go.pcmag.com/hp425gogo

●●●●○

PRINTING CHOICES Canon Selphy DS810

This printer lets you print on its less expensive paper, but you can also step up to quality suitable for framing.

\$149.99 direct
go.pcmag.com/canonDS810

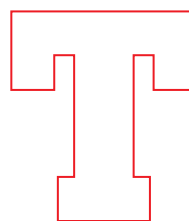
●●●●○

AFFORDABLE ALTERNATIVE Canon Selphy CP510 Compact Photo Printer

Small, lightweight, and offers the best combination of running cost (at 29 cents per photo) and output quality for the price.

\$99.99 direct
go.pcmag.com/canonCP510

●●●●○



THE PHONE CALL USUALLY COMES right after friends and family go shopping on their own for a photo printer and come back confused. There are so many choices. First they need to decide if they want a standard desktop ink jet or a dedicated photo printer. If they

settle on buying a dedicated unit, they'll have to figure out if they want ink jet or thermal dye. That's when they remember they have an expert resource to call on. The most common question I get is, What's the difference between thermal dye and ink jet printers? I usually take a deep breath, because as simple as the answer is (at least to me), it's equally complicated to convey. The short answer is that there's plenty of difference in the printer technologies themselves, but a tremendous overlap in the features—those features being cost-per-photo ratio, photo quality, and water resistance. And of course, at the end of the day, your choice will depend on the features you value most. The tips below have helped many a friend and family member choose the perfect printer.

First, let's clear up a common misconception. Thermal dye printers do not print better-looking photos than ink jets. They did several years ago, but they no longer do. The reality today is that both technologies can produce good-looking output, but four of the five best photo printers I've seen since mid-2004 are ink jets.

The bad news about prints generated by ink jet printers is that most ink jet output isn't waterproof. Even after the ink is dry, you can ruin a typical ink jet photo easily: Just pass it around for people to handle on a humid day. The ribbons in thermal dye printers, however, include an overcoat panel to coat the finished photo and protect it. The result is a photo that you can handle without ruining, even immediately after printing. Try that with most ink jets and you'll smudge the photo—or at least get fingerprints on it. Some ink jets, like the Epson PictureMate Deluxe, offer the same level of waterproofing as a thermal dye printer, but most don't.

Ultimately, ink jets are more likely to give you better-quality photos, yet you risk unpredictable costs and smudging. Thermal dye photo quality isn't as highly rated, but with thermal dye you know your photos won't smudge and you can calculate costs more efficiently. Instead of calling me, research your printers until you find one that can give you everything you want. They're out there—like the 29-cent-per-photo Epson PictureMate Deluxe ink jet. □

M. David Stone is PC Magazine's Lead Analyst for Printers.

YEPG Proudly Presents, Thx for Support

CF and xD
card slot

Pop-up flash



3.1x optical
zoom

Olympus Evolt E-330

The Olympus Evolt E-330 is the first D-SLR that lets you compose your subjects on its LCD screen.

\$1,100 street, with 14mm-to-45mm lens
go.pcmag.com/e330



LIVE FROM YOUR D-SLR

THE OLYMPUS EVOLT E-330 WAS A BIG HIT at this year's PMA show in Orlando. And for good reason: It's the first D-SLR to give consumers the option of framing their shots on the LCD, a feature that's been available on lower-end digital cameras for years. It's also the first D-SLR with an articulating LCD.

This breakthrough product gives you the best of both worlds: You can compose a shot on the 2.5-inch LCD screen or peer through the viewfinder—it's your choice. How Olympus achieved this Live View was relatively simple: It added an additional CCD sensor into the reflected path that carries the image from the lens, through the camera, and into the viewfinder.

The LCD's ability to articulate is another feature new to D-SLR cameras. If you want to take a Hail Mary shot (hold your camera above your head and pray you get the shot), you can adjust the screen, extend your arm, and still see precisely where you're aiming the E-330.

The E-330 weighs 1.2 pounds without a battery, about the same as the Nikon D50 (1 pound 3 ounces). I enjoyed holding it. Also, it has one of the nicest control sets I've seen on an entry-level D-SLR.

Olympus lets you choose between two options for composing images on the LCD: Live View A Mode, for general-purpose shooting, and Live View B Mode, for close-ups (see the diagram on page 34). Both modes are easy to use, and it's simple to toggle between them.

YEPG Proudly Presents, Thix for Support



The specs of the Olympus Evolt E-330 make it an entry-level D-SLR: It's a 7.5MP camera that comes with a Zuiko Digital Specific lens, which has a 3.1X optical zoom with a 14mm-to-45mm range (equivalent to a 35mm lens with a 28mm-to-90mm zoom) and corresponding maximum f-stops of f/3.5 to f/5.6.

The menu structure was decent enough, although I hope future Olympus D-SLRs will include the guide features found on some of their latest Stylus models. I like that the camera gives you a wide array of image-file choices, including TIFF and various combinations of RAW and JPEG files.

I was happy to see that there is no solarization on the 2.5-inch Hyper Crystal LCD panel. This means you can view the image at an angle without having it become obscured the way it would be on an older LCD.

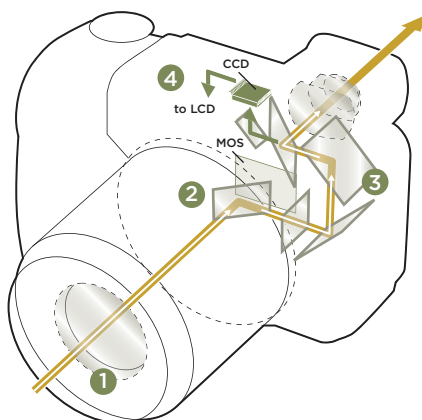
The E-330 isn't without some shortcomings. The camera has just three autofocus points, rather disappointing for a somewhat expensive entry-level D-SLR. Most other D-SLRs have at least five AF points. There is also no way to change between the three points quickly; you have to use the menus. Other D-SLRs use a multiselector controller. These AF points can help you track your subjects more precisely and keep them in focus, although most of the time this will apply only to action shooters.

The E-330's full feature set and variety of options make it competitive with other D-SLRs, although Olympus will need to add some improvements to render it flawless: In testing I found the image quality quite good but just a notch below that of the Nikon D50 and the Canon Rebel XT. But by giving me that best-of-both-worlds feeling, it's a camera that truly stands apart from the pack.—Terry Sullivan

HOW IT WORKS: LIVE VIEW

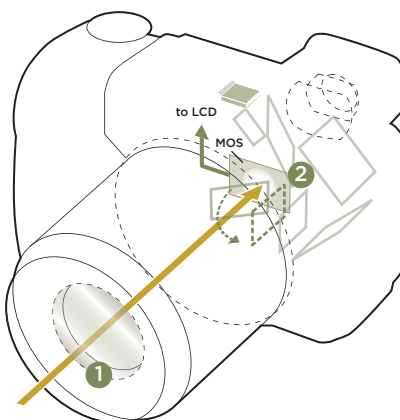
Until now, no D-SLR let you view a live image of your subject on the LCD screen. Instead, you were forced to put your eye up to the viewfinder. With its innovative Live View display, the Olympus Evolt E-330 gives you two ways to view your subjects on the LCD screen: Live View A Mode and Live View B Mode.

A MODE: For General Photography



- 1 As with all D-SLRs, the image enters through the lens here.
- 2 In Live View A Mode, when you take the picture, this mirror will swing out of the way and let the image register on the 7.5MP MOS sensor.
- 3 The E-330 has special mirrors, called Porro mirrors, which reflect the image around the side of the camera body instead of up through its center.
- 4 The image is reflected through the glass viewfinder and also to an 8MP CCD sensor, which sends a digital image to the LCD.

B MODE: For Closeups



- 1 The image travels through the lens into the camera body, as it does in A Mode. When you press the Live View button, however, the image is not reflected around the camera body but instead travels back to the main 7.5MP MOS sensor.
- 2 In B mode, the digital image is sent directly to the LCD for a live preview. Because the autofocus is disengaged you have to focus manually. To help with that, you can view the image magnified 10X on the LCD.

Y&P Proudly Presents, Thx for Support

CINGULAR'S MODEST 3G HANDSET

THE LG CU320 IS A PLEASANT, MIDRANGE phone that plays fun, boredom-banishing video clips. But it's a modest introduction for Cingular's new 3G network.

A solid, slightly techy-looking slider phone, the tri-band CU320 performs pretty well in terms of reception and sound quality. The phone's major feature is Cingular Video, a package of clips from HBO, CNN, ESPN, NBC, and others. The selection is better than Verizon's, but Sprint leads the pack with live TV channels. Videos look sharper than on Sprint or Verizon, and they even look good in EDGE cities without Cingular's 3G network. Photos taken with the CU320's 1.3-megapixel camera were bright but blurrier than I would have liked. There's also a POP3/IMAP e-mail program and AIM, ICQ, and Yahoo! instant messaging.

Unfortunately, the CU320 doesn't use Cingular's 16-city UMTS/HSDPA network to its fullest. There's no video calling or full HSDPA speed, though the phone works as a PC modem on the 200-to-300-Kbps UMTS system. For a high-speed modem on Cingular, get a PC Card or wait for HSDPA phones this fall.—*Sascha Segan*

1.3-megapixel camera



LG CU320

Although it doesn't take full advantage of Cingular's new 3G data network, this is a solid midrange phone with some nice entertainment features. **\$299.99; from \$149.99 with contract**
go.pcmag.com/cu320



Keypad slides shut

Stan, you can depend on Ricoh color to stand out.



We could use a little color, Jerry.



Ricoh dependability moves your ideas forward.

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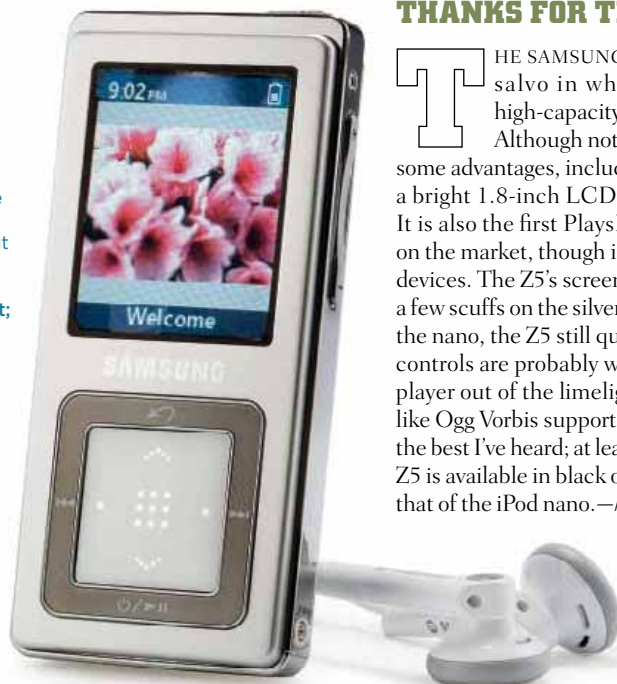
ricoh-usa.com/itchannel
 1-800-RICOH-43
 ©2006 Ricoh Corporation

YYePG Proudly Presents, Thx for Support

Samsung Yepp YP-Z5

It's the first 4GB flash player to be compatible with PlaysForSure, but it's still no iPod nano-killer. **4GB: \$249.99 list; 2GB: \$199.99** go.pcmag.com/ypz5

●●●●○



THANKS FOR THE MEMORY

THE SAMSUNG YEPP YP-Z5 IS PART OF THE OPENING salvo in what will soon be a slew of non-Apple high-capacity flash MP3 players hitting the shelves. Although not quite an iPod nano-killer, it does have some advantages, including an impressive 30-hour battery life, a bright 1.8-inch LCD screen, and photo panning/zooming. It is also the first PlaysForSure-compatible 4GB flash player on the market, though it will soon be followed by many similar devices. The Z5's screen seems fairly rugged, though I did find a few scuffs on the silver plastic casing. Nearly twice as thick as the nano, the Z5 still qualifies as "thin." The somewhat finicky controls are probably what will keep this otherwise satisfying player out of the limelight, but techies will love nice touches like Ogg Vorbis support. Overall sound quality is good, but not the best I've heard; at least the included earbuds aren't bad. The Z5 is available in black or silver, and pricing is comparable with that of the iPod nano. —Mike Kobrin

TINY BASS THUMPERS

FOR BASS LOVERS AND SUBWAY commuters, the Sennheiser CX-300 in-ear headphones are a very good step up from stock earbuds. They're small, fairly nonintrusive, and the sound quality is noticeably better than that of the slightly cheaper Sony MDR-EX series, with more clarity and crisper highs.

The bass is very powerful, but it doesn't overwhelm the rest of the sound. Also, the 16-ohm CX-300 headphones are more efficient than Sony's, which means you don't have to turn your player up as loud to get a comfortable listening volume. In addition, the CX-300's noise isolation is reasonably effective. These are a good alternative to your player's included earbuds, especially if you dig a beefy low end. —MK

Sennheiser CX-300

If you want thumping bass with minimal mud, you'll love these compact in-ear headphones.

\$69.99 list go.pcmag.com/cx300

●●●●○

Drivers are covered with a screen



StarTech MP3 AirLink

With a dead-simple setup and a price that won't hurt your wallet, this is an excellent wireless music system. **\$92.99 direct** go.pcmag.com/airlink

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WIRELESS MUSIC MADE SIMPLE

THE STARTECH MP3 AIRLINK LETS YOU SEND MUSIC across your home without making your floor look like a snake pit. The 2.4-GHz transmitter and receiver are two nearly identical 1- by 3.1- by 3.1-inch (HWD) plastic boxes. Each box has its own wall-wart AC power adapter, and the system comes with two sets of RCA-to-3.5mm cables and one 3.5mm-to-3.5mm cable.

Overall, I'm impressed with the AirLink's sound quality and ease of use. It has a significantly clearer signal than Bluetooth-based products. But if you have a lot of interference in your space from other devices that use the 2.4-GHz frequency band (Bluetooth headsets, microwaves, some RF remotes), the AirLink may disappoint. If you don't, you'll find this is a very useful, and affordable, product. —MK

YYePG Proudly Presents, Thx for Support

Controls are
recessed into
the frame



THE BEST 42-INCH PLASMA—FOR NOW

WITH A NATIVE RESOLUTION OF 1,024 by 768 pixels, the NEC 42XR4 is, to date, the most impressive 42-inch plasma display panel I've ever seen. It doesn't include many extras, and its advanced picture controls demand professional setup, but with some tweaking, this TV's accurate and faithful video reproduction is a pleasure for the eyes. The 42XR4 is officially labeled a monitor, since

it lacks a television tuner (DTV or otherwise), but for cable and satellite set-top box users, this is mostly irrelevant. After calibration, the 42XR4 produces an ANSI contrast ratio of 1,001:1, the best among all displays (plasma or otherwise) that I've tested to date. Subjectively, both DVD movies and HDTV appear pleasingly correct, with accurate colors and detailed imagery. Yes, the near \$4,000 42XR4 costs more than most other 42-inch plasma displays, but I have yet to see a 42-inch TV come this close to image perfection.—*Robert Heron*



NEC 42XR4

The 42XR4 is a superb plasma display. It needs professional installation to

set the advanced picture controls, however.

\$3,995 list

go.pcmag.com/nec42xr4



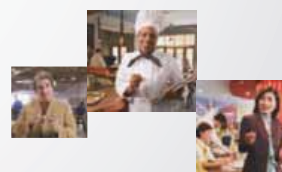
Microsoft®

Learn Excel® on your lunch break, take a marketing class on the train, and get technical support anytime, anywhere.

Free.

Introducing Microsoft® Small Business+. This free online business resource is designed to help you get the most out of your Microsoft software investment. Small Business+ provides you and your employees with free training, technical support, and practical tips and how-tos to help you improve overall business practices. Best of all, the program is based on your business needs, and is customized around what you tell us is important to you. Just go to: www.microsoft.com/sbplusG

Small Business +



YYePG Proudly Presents, Thx for Support

BUYING GUIDE

Windows Mobile Devices

T-MOBILE SDA



A total fireball of a smartphone, the T-Mobile SDA syncs with Outlook, plays music, and surfs the Web over Wi-Fi. The chubby candy-bar phone has plenty of buttons, giving you great power once you get the hang of it. Though the phone isn't very loud, it gets excellent reception, and the talk time is outstanding. Microsoft's Windows Mobile 5.0 plus T-Mobile's all-you-can-eat Wi-Fi/EDGE data plan make the SDA a great way to carry around your calendar, play music synced from Windows Media Player, and find that Mexican restaurant using the built-in Web browser. I wish it had more memory for add-in programs, but no phone is perfect.

\$299.99 list
go.pcmag.com/sda



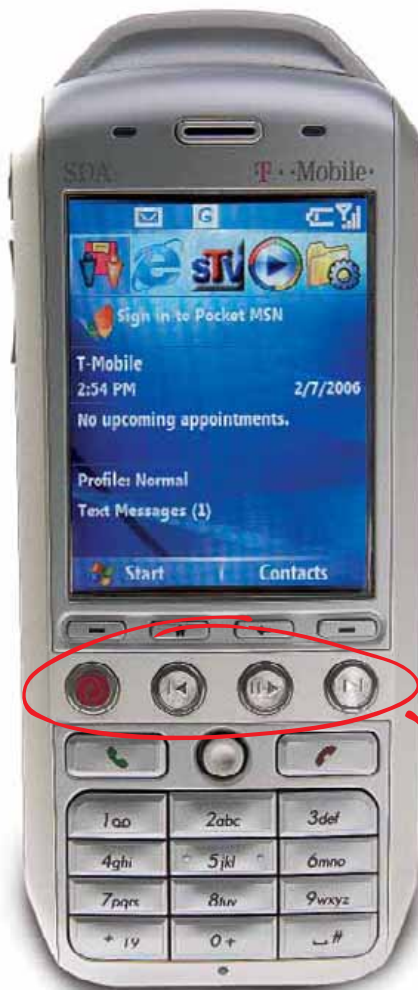
WINDOWS MOBILE IS WINNING the mobile OS wars. Once a clunky also-ran, Microsoft's operating system now appears on devices for every major wireless carrier.

Flexibility and power put Windows Mobile in the lead. The OS comes on a wide range of devices, from candy-bar phones to laptop-style mini-PCs. It supports the fastest mobile processors and wireless connections. You'll also find that Windows Mobile devices are on the cutting edge of mobile video and gaming.

Windows Mobile devices sync with Windows XP PCs, letting you carry your Outlook contacts, calendars, e-mail, and Windows Media Player music and video wherever you go. They also surf the Web with Pocket Internet Explorer, play games, read Microsoft Office documents, and run hundreds of other applications.

YEPG Proudly Presents, Thx for Support

320-by-240
VGA screen



Dedicated
music buttons

Pick Your Favorite Flavor

Windows Mobile comes in three flavors—and two versions. Traditional PDAs like the Dell Axim X51v are the most powerful of the bunch, but obviously, they don't make phone calls. Right now, only traditional PDAs offer features like 640-by-480 VGA screens, graphics acceleration, 624-MHz processors, and fingerprint scanners. That makes them ideal for gaming, multimedia, remote-desktop access, or other demanding business applications.

Smartphones such as the T-Mobile SDA look like regular phones, and they don't have touch screens. They're best for people who will be receiving information on the go. You can surf the Web, read e-mail, or

» **MORE ON THE WEB**
Check out all our Windows
Mobile Device reviews at
go.pcmag.com/wmd



ANALYST'S VIEW

BY SASCHA SEGAN

listen to MP3s on your smartphone, but editing documents or writing e-mail is only for the very patient.

Pocket PC phones such as the Sprint PPC-6700 balance power and phone capabilities. All have touch screens, and many have full keyboards. But they're a bit clunkier than smartphones.

You'll also have to choose between the newer Windows Mobile 5.0 and the older 2003 OS. Windows Mobile 5.0 devices use persistent memory, so your data doesn't disappear if the battery dies, and they're better at reading Microsoft Office documents and Web browsing. Also, they hold out the promise of true push e-mail from corporate Outlook 2003 SP2 servers with a future upgrade. But Mobile 5.0 devices feel a little slower than devices running the older OS. Still, we think you should buy Mobile 5.0 devices whenever possible.

Once you've picked your flavor and version, scope out the features you need. If you plan to talk a lot on a Pocket PC phone, you'll probably want Bluetooth. If you're into e-mail, try out your device's keyboard first. A few Pocket PCs, such as the HP iPAQ hw6515, even come with built-in GPS, useful for road warriors.

High-speed cellular networking, such as EV-DO, will cost a lot monthly but will give you the best browsing experience. To save on monthly fees, you can find a Wi-Fi device and restrict yourself to hot spots.

Processor speed matters only if you're going to try to watch full-screen video or run voice-over-Internet applications like Skype. In such cases, look for a device with a 416-MHz or faster processor.

Once you've settled on a Windows Mobile device, stop by an online store such as Handango or PocketGear to see the wide range of software available. Whether you're an office drone, a gamer, or a multimedia maven, you'll be amazed at what you can hold in your hand.—SS

OTHER OPTIONS

BEST FOR SPRINT Sprint PPC-6700

This is the best Windows Mobile PDA/phone we've seen for Sprint, with a nearly ideal balance of size and power, and good EV-DO/Wi-Fi integration.

\$479 list
go.pcmag.com/ppc6700

●●●●○



BEST FOR VERIZON Palm Treo 700w

The first Windows Treo isn't a huge step forward, but it offers zippy EV-DO speeds and good reception.

\$619.99 direct
go.pcmag.com/700w

●●●●○



BEST FOR CINGULAR Cingular 2125

A truly pocket-sized phone for syncing with Microsoft Outlook or Exchange servers, it also has a terrific battery life.

\$299.99 list
go.pcmag.com/2125

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JUST A FEW YEARS AGO, PALM OS ruled the mobile landscape. Handspring, Qualcomm, and Samsung all brought out compelling smartphones with the easy-to-use PalmSource software.

But in 2006, it's increasingly becoming a Windows Mobile world.

Windows gadgets from Dell, HP, HTC, and even Palm flood wireless carriers' stores. The formidable PalmSource has been reduced to one smartphone, the Treo 650, and a handful of PDAs.

In the fourth quarter of 2005, Microsoft licensees shipped 2.1 million Windows Mobile PDAs, almost double the number of Palm OS PDAs shipped that quarter, according to Gartner Dataquest. In-Stat principal analyst Bill Hughes sees Windows smartphone sales jumping to 6.7 million in 2006, with RIM and Palm at about 3.7 million each.

How did Microsoft jump from worst to first? The company embraced the latest technologies faster than anyone else. Looking for a handheld with hardware graphics acceleration? Check out Windows Mobile. How about EV-DO high-speed networking? Windows Mobile again. How about EV-DO and Wi-Fi? Yup, Windows Mobile.

Microsoft also listened to its licensees, and signed up new partners. PalmSource's Cobalt OS was supposed to be the next generation of the Palm OS. But it wasn't designed to accord with the needs of licensees, and nobody picked it up.

Microsoft played up its strengths. Exchange ActiveSync leverages corporate IT departments' existing investments, and Microsoft has provided a clear road map toward Microsoft-based push e-mail. That takes some of the wind out of RIM's sales.

The company also waited for technology to be on its side. Microsoft's OSs are not terribly efficient. That was a drawback when PDAs ran on slow processors with little memory. Now that handhelds can pack 624-MHz processors and 128MB of RAM, the efficiency advantages held by Linux, Symbian, and PalmSource have begun to evaporate.

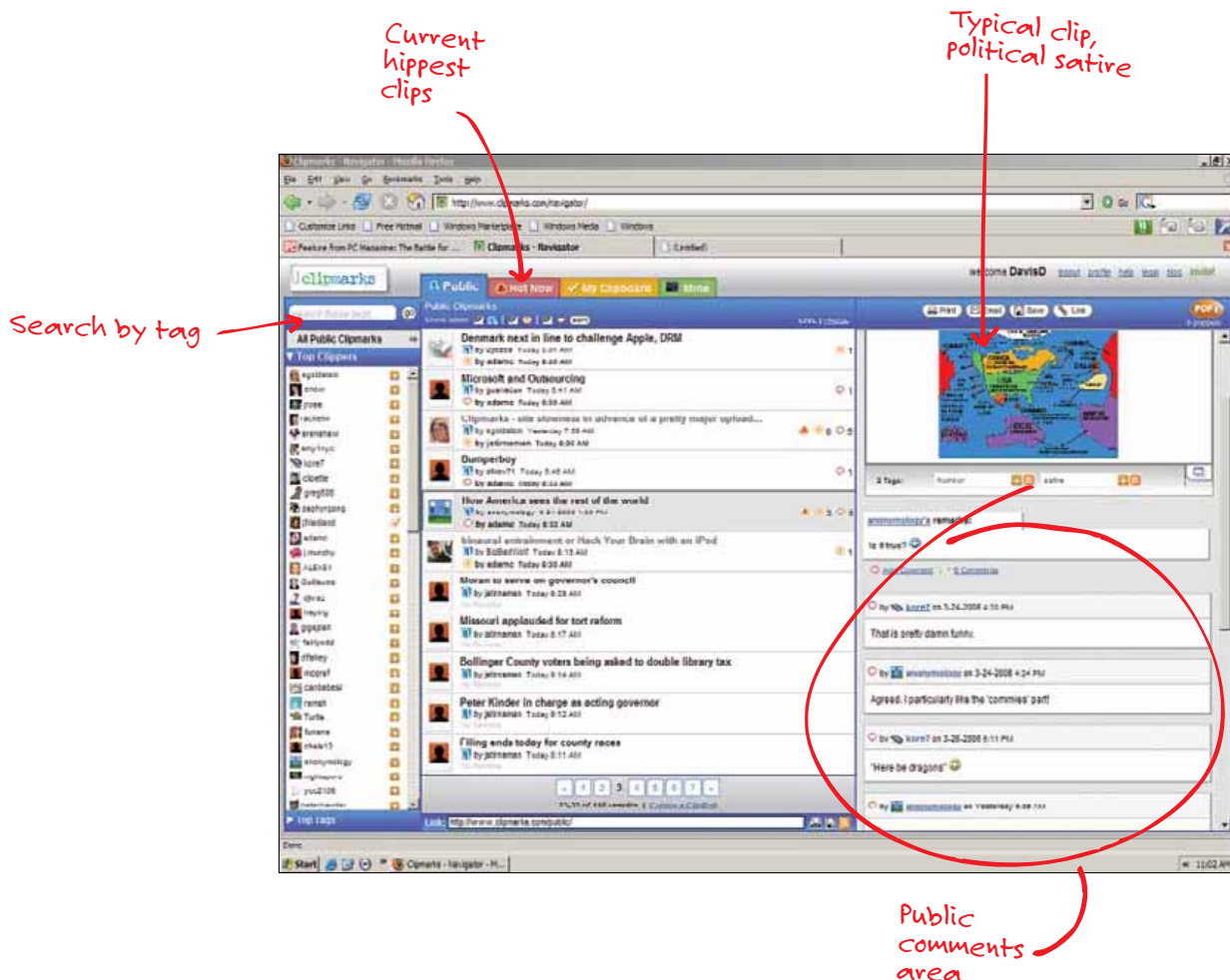
And finally, Microsoft delivered. PalmSource might be more of a contender if it actually had a new product. Instead, after the Cobalt debacle of 2004, the company practically went into hiding, coming out only to announce that its new ALP platform might appear on devices sometime in 2007. That will leave Microsoft crossing the finish line while PalmSource is still tying its running shoes. For 2006, at least, Windows Mobile is the OS to watch. □

Sascha Segan is PC Magazine's Lead Analyst for cell phones and handheld devices.

RECENTLY REVIEWED

HP iPAQ rx1950	\$299.00 list	●●●●○	A good business PDA for PIM and integrating into corporate networks.
Samsung i730	\$599.99 list	●●●●○	The most powerful cellular device available; just recharge it daily.
i-mate JAM	\$639.00 direct	●●●●○	This little Pocket PC phone offers a lot of performance for its size.
Sprint PPC-6600	\$629.99 list	●●●●○	The most powerful Sprint handheld doesn't offer a high-speed network.
Siemens SX66	\$549.99 list	●●●●○	This powerful PDA/phone has a wide range of networking options.
Audiovox XV-6600	\$549.99 list	●●●●○	Surf at near-broadband speeds in 16 cities with this PDA/phone.
Sprint PCS PPC-6601	\$629.99 list	●●●●○	This smartphone works very well for what it's meant to do, but at a price.
HP iPAQ hx2750	\$549.00 list	●●●●○	A fast, handsome business PDA with top-of-the-line performance.

YyPG Proudly Presents, Thx for Support



Clipmarks

This addictive app/Web-site combo is an effective way to store pieces of Web pages for future reference, sharing, and gathering commentary.

Free
go.pcmag.com/clipmarks
 ●●●●○

A TRULY SOCIAL BOOKMARKING SITE

THE CLIPMARKS APP/WEB-SITE COMBINATION defies easy classification. When you browse, it lets you clip (select and save) and tag content, as you might guess from the name, but the sharing and social components at its heart are its most compelling and entertaining attributes. Although you can, of course, keep your content private, the site's very nature invites you to share it, as well as peruse and comment on what your fellow clippers post.

Using tools that the plug-in app puts on the menu bar of your browser (Firefox, Internet Explorer, or the little-known Flock), you snag Web content and store it on Clipmarks.com, a thoroughly intriguing interactive site that has a very intuitive and responsive interface. Because you can easily

tag items with common-sense categories and create tags that others can search on or use themselves, members can easily find clips, subscribe to RSS feeds based on tags, and even stitch clips together into personalized cliprolls.

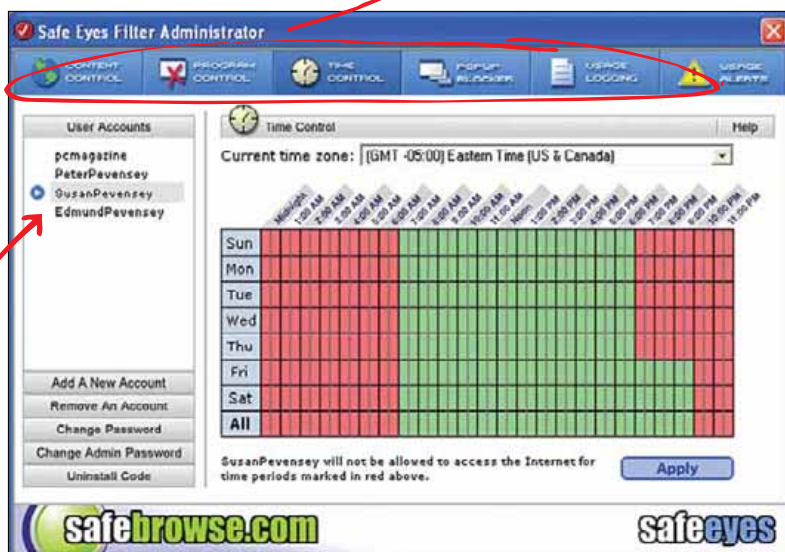
Although there are just 10,000 registered users and 2,500 active clippers currently, someone will nearly always be interested in what you post, and you'll come across a lot of fascinating content posted by others. Despite the relatively small community, there are a wide variety of clips with topics from news and celebrity gossip to shopping. I find it—for now at least—a far more intimate and inviting place to spend time than del.icio.us, digg, or Yahoo! My Web—and that makes part of me sad to recommend this free tool so highly.—*Davis D. Janowski*

YEPG Proudly Presents, Thx for Support

BUYING GUIDE

Parental Controls

Control settings, alerts, and logs with the menu bar



SAFE EYES 2006



Keep your kids away from bad sites and control how much time they spend online. If they go wild on the Web, Safe Eyes rats them out so you can take control from wherever you are. The product is tough—I tried but failed to get around its site blocking and could not gain access outside scheduled hours. One license allows installation on three PCs or Macs, which can conveniently share the same online user profiles—that's great for the multicomputer family. And filtering happens at the server level, so it works with any browser. Add logging of Web and IM activity, and you've got near-complete parental control.

\$49.95 per year for up to three computers
go.pcmag.com/safeeyes2006

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Vary settings by user account

MORE ON THE WEB

For in-depth reviews of parental-control software and hardware, visit us online at go.pcmag.com/parentalcontrols

IN A PERFECT WORLD, YOU'D GUIDE YOUR children through the vast resources of the Internet, and they'd follow your guidance. They'd use the computer only when permitted, eschew violent games, and avoid inappropriate sites. But this isn't a perfect world. You may not be able to supervise your kids all the time: Maybe they get home before you do, maybe they have computers in their rooms—and maybe they don't do what they're told. Parental-control software can help.

Most of these programs filter HTML traffic and block access to Web sites that match from a dozen-odd to 40 or more specific categories. The products use a

local or online database to categorize Web sites; a few actually analyze each page. You may have the option of logging violations without blocking them or just displaying a warning. Naturally, you should have the option of overriding the category filtering to allow access to specific sites; the database won't always be right. But don't even look at a product that relies solely on lists of good and bad sites. And be sure the filter blocks inappropriate sites regardless of the browser used.

Time Management

In most cases, these products let you limit time children spend on the computer to a daily or weekly

HOW THEY RATE

	Site blocking	Image blocking	Time control	Alerts & remote access	Robustness	Overall
ContentProtect	●●●●○	N/A	●●●●○	●●●○○	●●●●○	●●●●○
iShield	N/A	●●●●○	N/A	N/A	●●●○○	●●●●○
PC Moderator	N/A	N/A	●●●●○	N/A	●●●●●	●●●●●
Safe Eyes 2006	●●●●○	N/A	●●●●○	●●●●●	●●●●○	●●●●○

RED denotes Editors' Choice.

YYePG Proudly Presents, Thx for Support

N/A—Not applicable: The product does not perform this function.



ANALYST'S VIEW

BY NEIL J. RUBENKING

allowance, a weekly matrix of permissible times, or a combination of the two. Some let you set an allowance in minutes, and others use half-hour or hour blocks. And some let you separately schedule overall computer usage, Internet usage, and individual programs. Of course, if a program lets the kids change the system clock, all bets are off; the best products defend against such chicanery.

Look for a solution that supports multiple users so you don't have to put the same restrictions on a teenager that you do on a preschooler. User accounts may be tied to Windows accounts, or they may require a separate log-on; the best products give you both options. And of course, anything designed for parental control should log users off automatically when there's no activity.

Invalidate Their Privacy

Activity logging may feel a bit like reading your child's diary, but virtually all parental-control programs do it to some degree. They'll at least log Web sites visited and any attempts to reach blocked Web sites. They may also log the time spent using specific programs, record both sides of IM or e-mail conversations, or even record every keystroke typed, along with which program it was typed in. If you opt for activity logging, make sure the logs are stored where kids can't modify or delete them.

If the content filter mistakenly blocks a site needed for research, or if your child runs out of computer time before running out of homework, remote management can be a lifesaver. Many modern parental-control systems let you view reports and change settings from any browser. They may even notify you by e-mail, phone, or text message when specific events occur, such as multiple attempts to reach blocked sites.

Of course, none of the restrictions mean squat if the kids can break the parental-control system. Firewalls and antimalware programs have to resist attack by hackers and viruses—parental controls need to be just as tough. Your kids may know more about computers than you do, so you'll want a product that's hardened against meddling. —*NJR*

STAY AWAY!

CyberSitter 9.0

Unchanged for years, this former Editors' Choice no longer measures up. **\$39.95 direct.** go.pcmag.com/cybersitter90 ●●●○○

NetNanny 5

No Web filtering by category, no improvements in years—no thanks. **\$39.95 direct.** go.pcmag.com/netnanny5 ●●●○○

Chaperone Pro 5

What's worse—that it lacks many common features, or that it's easy to hack? **\$59.95 direct.** go.pcmag.com/chaperonepro5 ●●○○○

OTHER OPTIONS

CONTENT FILTERING ContentProtect

This full-featured parental-control app analyzes Web-page text in real time and applies categories on a per-page basis. **\$39.99 per year** go.pcmag.com/contentprotect

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GRAPHICS BLOCKER iShield

Blocks pornographic images rather than pornographic text. Use it with a text-based or URL-based Web filter. **\$24.95** go.pcmag.com/ishield

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ACCESS CONTROL PC Moderator

This gadget is the best way we've found to control time spent on the PC, but that's all it does. Still, it accomplishes its mission well, and that earns it an Editors' Choice. **\$79.95 analog, \$89.95 digital** go.pcmag.com/pcmoderator

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I DON'T KNOW HOW LONG MY KIDS would stay on the computer if I let them—I've never waited long enough to find out! I've tried all sorts of techniques for anchoring them in the real world: changing their passwords, rewarding good behavior with "computer time tokens," and limiting non-homework computer use to weekends. One thing I haven't done is automate the limits, because I can see their computer from my home-office desk. If I didn't have the luxury of direct supervision, however, I'd consider a time-limiting utility.

As for where they go on the Internet, I'm reluctant to apply filtering software. Site-category databases can lag behind reality, so a new site or one that has changed from kiddie games to kiddie porn might not be blocked.

And these utilities can err the other way, too, preventing access to perfectly innocent sites. Some have even been accused of promoting their own agendas, inappropriately blocking topics such as feminism, gay rights, or progressive politics.

The real-time approach, categorizing pages by analyzing text, may be more timely, though sites with text in images can fool it. And it's only useful when the software analyzes entire pages to derive meaning from words in context.

I have no patience for applications that block pages because they contain keywords—and those that find keywords within other words are even worse. To illustrate, here's an example using a nonoffensive word: Put the term "reside" on the keyword list, and the software might block sites containing "president." Pointless!

I'm on the fence about activity logging. If I were an employer, I'd have to notify employees they were being logged, and there still could be ethical issues if I recorded private e-mail and IM conversations. Perhaps the situation's different for my preteen kids, but what about when they get older?

There's no substitute for actually paying attention to what your children are doing. But when you can't be there to cast a watchful eye, software can control how and when they use their computers and can track what they do.

Still, don't forget this one important fact: Your kids are smart. You need to talk with them about their favorite Web sites, and you should ask what they've discovered each day. Explain why you're imposing restrictions. Let them know if their IM conversations aren't private. And hope they're not so smart that they can hack whatever parental-control software you do decide to use. □

Neil J. Rubenking is a lead analyst at PC Magazine.

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One-touch backup button



Infrant Technologies' ReadyNAS NV

You can replace a bad drive in this RAID appliance without turning off the power.

1TB configuration, \$1,300 street

go.pcmag.com/readynasnv



KICKIN' NAS

WANT TO MAKE STORAGE EXCITING? Run out of it or lose some data. If your small business doesn't need that sort of thrill, though, the ReadyNAS NV will keep you happily bored.

This Network Attached Storage (NAS) appliance can hold four SATA drives running in a RAID (Redundant Array of Inexpensive Drives) 0, 1, or 5 configuration. My test unit came with four 250MB drives.

Few NAS boxes at this price let you hot-swap, but I yanked a bad drive while the NV ran and popped in a new one with no problem. Another plus: OS and configuration info—which are held in integrated memory, not on the drives—stay put when drives crash.

The firmware and software are stellar. The installer lets devices auto-detect the NAS, and the impressively thorough setup wizard (a bit daunting for networking newbies) walks you through configuration. The NV's smart DHCP server bows out if your network already assigns IP addresses. The NV's X-RAID technology adjusts the RAID configuration (a tough task if you're new to RAID) when, say, you expand storage.

Small businesses, departments in large companies, and tech-savvy people with home multimedia networks—here's your shopping list for a compact NAS: the ReadyNAS NV. —*Oliver Kaven*

Eight switched Ethernet ports on the back



SWISS ARMY NAS

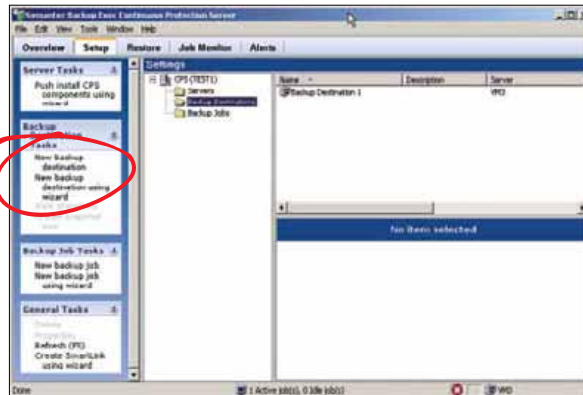
WHY BUY AND SUPPORT A NAS device, router, firewall, switch, and Web server when your small business can get the same features in one toaster-size package? Not only does the Yellow Machine P400T combine all that, but it also supports RAID 0, 0+1, and 5 (the default); contains eight built-in Ethernet ports; and comes preloaded with excellent backup software—Retrospect Professional—licensed for five clients. I tested a P400T that had four 250MB drives.

To configure the appliance, you simply plug a PC into one of the eight Ethernet switch ports, point to the IP address of the administration interface, and follow a wizard. Setup is relatively easy if you have a

marginal understanding of networking. The management interface is very rough, though—one reason the P400T loses the Editors' Choice to the ReadyNAS NV. Still, this appliance gives serious bang for the buck to those needing more than a NAS device. If you're one of them, put it high on your list. —*OK*

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Wizards simplify admin tasks



SYMANTEC ENTERS THE BACKUP GAME

IN BACKUP EXEC 10D, SYMANTEC BLENDS the continuous file protection and self-service restore capabilities of Continuous Protection Server (CPS) with the functionality of the mature, full-featured backup solution, Backup Exec. (Symantec acquired both in its 2005 merger with Veritas.) The combination best suits companies with multiple servers, perhaps in separate locations.

Backup Exec kicks in nightly, which protects against major failures but not daytime user mishaps. CPS, though, works throughout the day. By default, it immediately saves any file changes made on the servers it protects. A Web interface called Backup Retrieve lets users see their own file copies—but no others—and

restore those made very recently or further back. This capability is valuable for administrators who spend a lot of time helping users restore files selectively.

Continuous protection works only for standard files right now, though, not for the more complex files found on database or Exchange servers. For these (and other data types), Backup Exec has a full set of agents and options that allow backups of Oracle and Microsoft databases, e-mail systems such as Lotus Domino and Microsoft Exchange, Linux and Unix servers, and a number of other enterprise software packages. And naturally, the product provides the features you'd expect in a traditional enterprise backup solution: full, incremental, and differential backups, scheduled jobs, tape-drive support, and more.—Robert P. Lipschutz

Symantec Backup Exec 10d for Windows Servers with Continuous Protection Server 10.1

This backstop lets admins recover from disasters, but also lets users retrieve files that have been deleted by mistake recently.

With three CPS agents, \$795

go.pcmag.com/backupexec10d

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YOU'RE ON, SPEAKERPHONE

THE WELL-MADE AND DURABLE ClearOne Chat 50 is a cut above the chintzy toy-like gadgets typical of USB speakerphones. More important, though, is its excellent, full-bodied sound. I found the audio comparable to that of high-end Polycom conference-room models—which cost far more.

Simply plug the Chat 50's USB cable into your PC, and you're ready to use your VoIP phone service. A mini DIN headphone jack lets you connect your cell phone, PDA, or even your MP3 player (in a pinch, the Chat 50 isn't half bad for playing music).

While you'll enjoy the sound quality, you'll really love the full-duplex operation (which is excellent), because it lets you simultaneously speak to and hear the person on the other end.

If you hate the speakerphone quality on your laptop or you're sick of constantly wearing a headset, consider the Chat 50. It's well worth the investment.—Oliver Kaven



Smart LED is blue when powered, red when muted



ClearOne Chat 50

This USB speakerphone provides business-quality full-duplex sound for PCs using Skype or similar software or cell phones.

\$149 direct

go.pcmag.com/chat50

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WHAT TO BUY



MEDIA CENTER DESKTOP

HP Pavilion Media Center TV m7360n PC
Hewlett-Packard Development Co.; \$1,610 direct; \$1,200 without monitor. Dual-core processor. TV tuner. Media Center. Massive amounts of storage.
go.pcmag.com/hpM7360n

MEDIA CENTER LAPTOP
Dell Inspiron 6000 (Media Center)
Dell Inc.; \$968.80 direct (E-Value Code 1111-i6004pc) Media Center OS. 15.4-inch widescreen display. Very good performance.
go.pcmag.com/inspiron6000mce

42-INCH HDTV (PLASMA)
NEC 42XR4
NEC Display Solutions of America; \$3,995.99 list Exceptional picture quality. Comprehensive display options. Good video processor.
go.pcmag.com/nec42xr4

DEDICATED ULTRA-PORTABLE LAPTOP
Lenovo ThinkPad X60s
Lenovo; \$2,299 direct Just 3.5 lbs. Over 7 hours of battery life. Integrated EV-DO. Excellent management utilities. Very good screen and keyboard.
go.pcmag.com/lenovox60s

IPOD SPEAKERS/DOCK
Apple iPod Hi-Fi
Apple Computer Inc.; \$349.99 list Excellent sound quality. Big-room sound. Can run on alkaline batteries or AC power. Optical and analog audio inputs.
go.pcmag.com/ipodhifi

DESKTOP (APPLE OS)
Apple iMac (Intel Core Duo)
Apple Computer Inc.; \$1,699 direct, \$1,799 as tested Dual-core processor. Front Row. Mini-DVI port for true dual-monitor use. Excellent all-in-one design.
go.pcmag.com/appleimacintel

OPTICAL DEVICE
Sony DVDirect VRD-MC1
Sony Corp.; \$299.99 direct Easily transfers video directly to DVD from camcorder or VCR. Easy to use. 2" preview LCD.
go.pcmag.com/sonydvdirect

DEDICATED PHOTO PRINTER

Canon Selphy CP510 Compact Photo Printer
Canon U.S.A. Inc.; \$99.99 direct Fast performance and low running cost. Very good photo quality for the price. Battery option.
go.pcmag.com/canoncp510

ALL-PURPOSE PRINTER
HP OfficeJet Pro K550 Color Printer
Hewlett-Packard Development Co.; \$200 street Super-fast performance. Suited to a small office or home office.
go.pcmag.com/hpK550

MOBILE PHONE
Motorola RAZR V3c
Motorola Inc.; \$349.99 direct Gorgeous. Excellent voice quality. Good reception. Supports EV-DO.
go.pcmag.com/razrv3c

BUDGET PDA
Palm Z22
Palm Inc.; \$99.99 list Small, light, easy to use. Excellent battery life.
go.pcmag.com/palmz22

SMALL-BUSINESS BACKUP
NTI Shadow
NewTech Infosystems Inc.; \$29.99 direct Fast, simple, continuous backup.
go.pcmag.com/ntishadow

HOME NETWORKING

Netgear RangeMax 240 WPNT834 wireless router and WPNT511 CardBus adapter
Netgear; router, \$135 street; CardBus adapter, \$100 street Our wireless router of choice, it has the highest throughput (more than 100 Mbps) we've ever seen at short distances.
go.pcmag.com/rangemax240

UTILITY

Altiris Software Virtualization Solution 2.0
Altiris Inc.; free for personal use Installs, uninstalls, or resets software; prevents conflicts between apps; leaves Windows base unaltered.
go.pcmag.com/altirissvs

ANTISPYWARE

Spyware Doctor 3.5
PC Tools; \$29.95 direct Best version yet. Removed more spyware than other tested products did.
go.pcmag.com/spydoc35

FLASH DRIVE

Memorex U3 smart Mini TravelDrive
Memorex Products Inc.; \$35 list 256MB. Offers a great mix of storage capacity, U3 applications, and security features.
go.pcmag.com/memorexdrive



DIGITAL CAMERA (COMPACT)
Canon PowerShot S80
Canon U.S.A. Inc.; \$549.95 list Outstanding picture quality. Good performance. Wide-angle lens.
go.pcmag.com/S80

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INSIDE TRACK

BY JOHN C. DVORAK

THE CEBIT SHOW IN HANNOVER, Germany, will become the world's dominant computer technology show unless a new U.S. show can fill the void left by the **collapse** of the Comdex event. Such a shift in dominance from the U.S. to Europe could

be a disaster for American companies, which have tended not to participate heavily in CeBit. If interest in CeBit were to grow in the U.S. market, then the show would be **impossible to unseat** as leader. That said, CeBit could veer off in the wrong direction and self-destruct or stall.

One of Comdex's wrong turns was to **downplay interesting gadgets** and technologies. The show suddenly changed its focus, choosing to concentrate instead on enterprise computing and the needs of the Fortune 1000 companies. I hate to have to point out continually that although the Fortune 1000 companies can each purchase tens of thousands of computers and software systems, there are **only 1,000 of these companies**, hence the name. This makes for a show with low attendance, if you just **do the math**. Though 1,000 people might go to the show, each representing one of the 1,000 companies, nobody wants to exhibit in an empty hall that resembles a **ghost town** without the tumbleweeds.

This was the kind of target market CeBit chose for its **CeBit America show** in New York a few years ago, which proved short-lived. But at this year's Hannover show, the promoters were again talking about de-emphasizing devices and technologies and instead focusing on solutions. Solutions, by their nature, **are boring**. The booth that was packed to the gills with showgoers was Microsoft's pavilion, loaded with gizmos and technologies. This was followed by the mobile-phone makers' booths, which displayed all sorts of **jazzy phones**. The "solutions" booths were empty, and the TV crews covered the jazzy new stuff. Can you imagine otherwise? "Yes, Brent, our back-office database subsystems rely on an SQL database which our proprietary software accesses via VPN and our special nodal software. Let me give you an example of a complex query search here on the monitor." Yawn.

If any **one theme dominated** the show, it was the copycat attempts to make the mobile phone into some sort of all-purpose device. This will **never end and will never succeed**. The spotlight this year was on games and **flip-around screens**. I think every phone maker had one of these screens. They slide up and then flip sideways to form kind of a "T."

This is useful for **watching TV** and playing games with a controller below the screen. I see it as some-

thing expensive and **bound to break**—a classic unnecessary gizmo.

Another hot **topic was RFID**. It's generating world-wide interest now that the devices have come down to the size of a grain of rice. Now they want to put these things everywhere, from trucks to pets to you and me. Everyone was talking about **getting "chipped."** I think not.

Strange Bedfellows Dept.: I find it amusing that Dell just bought Alienware, a maker of high-end AMD-based computers for gamers. It's odd, since Dell actually got rolling in the PC business by developing some of the fastest computers available. I remember Michael Dell, at a *PC Magazine* Editors' Day in Texas about 20 years ago, personally showing off a 286 machine that at the time was **clocked faster than any competitive computer**. Back then, the company

Attempts to make the mobile phone into some sort of all-purpose device will never end and will never succeed.

was designing its own motherboards and pushing the envelope. I wonder just what it is that Alienware does that Dell itself can't do. My guess is that it's **just an excuse to get into bed** with AMD after all the years Dell chose to be an Intel-only shop. An **expensive divorce**, if you ask me.

Booting Windows XP on a Mac Dept.: Someone finally came up with a quick-booting version of Microsoft Windows XP **that boots just fine on an x86 Mac**. I had the opportunity to play with it; it looks just like any Windows XP until you go into the device manager and see more **yellow question marks** than you'll ever see anywhere. It works, but it doesn't really like being on a Mac—yet.

How Did They Do That? Dept.: I had no idea that you could manage to get a video feed out of a USB 2.0 port, but Tritton seems to have done it with the TRI-UV100 USB 2.0 Interface. As many of you know, you can run multiple monitors with Windows XP and create a **large desktop**. An nVidia SLI card can support two monitors from a single card. Most cards can drive only one monitor; to run another monitor you need to add a second card. Enter the Tritton. This **small, widely available USB device** gives you an **additional 1024-by-768** output for a second monitor. I didn't know that this was even possible. You could probably add another display card for less than the \$80 that this thing costs, but with closed systems, or for its simplicity, it's a very interesting idea. □

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MICHAEL J. MILLER

An Open Letter to Security Vendors

To: John Thompson, CEO, *Symantec*
George Samenuk, CEO, *McAfee*
Eva Chen, CEO, *Trend Micro*
Laura Yecies, General Manager, *Zone Labs*

ALL OF YOU HAVE REASON TO worry about the prospect of Microsoft entering the security market this summer with a new service called OneCare. But you're focused on the wrong problem. Instead of focusing on Microsoft, you need to take a good hard look at the effectiveness of your own wares. I've talked with a lot of computer users lately, and the conclusion is inescapable: Your products just aren't good enough.

Some of your products don't do a complete job; others are packaged in ways that customers don't understand; parts of some software don't work properly, and other programs are so big that they cause the very problems customers want to avoid.

It starts with marketing. Many of you promote single-solution products—typically your antivirus software—as if they provided enough protection. So people install Norton Antivirus or McAfee VirusScan, or get computers with these products preinstalled, and they think they're protected. Yet we all know that's not true. Most of the threats these days are blended, so people need multiple defenses: antivirus, a firewall, spyware protection, and an antispam program.

True, each one of you now offers suites that cover all the bases. But you haven't clearly told your customers that the standalone solutions aren't enough protection. Even for the most technical of us, running separate programs can lead to conflicts and confusion. And most users don't want the hassle of multiple interfaces.

I've installed each of your products on at least one of my systems and have had problems with every one of them. Norton Internet Security is bloated and occasionally messes up my machine. When I upgraded it this year, my Web browsers stopped working, and I spent two hours on an Internet chat to get the Registry patch to fix it. The software still sometimes interferes with my Internet access for no apparent reason.

McAfee Internet Security's antivirus and firewall modules have worked well for me, but its antispam module is very slow and inadequate. In addition, the privacy control is very annoying, and it doesn't offer parental filtering.

Trend Micro has all the right tools in the box, but its antispyware component is a major disappointment. One of my children downloaded a Tetris game that came with spyware, and I spent days removing it.

In my testing, ZoneAlarm Security Suite has been the most stable, with good antivirus and antispam modules in addition to its best-in-class firewall, but its antispyware is weak. And many of the people I talk

You haven't clearly told your customers that the standalone solutions aren't enough.

with who have tried ZoneAlarm are confused by its messages. The same goes for Computer Associates' eTrust, which also includes the ZoneAlarm firewall.

Still, each of you continues to believe you'll be able to compete against OneCare because you offer better software. So far we haven't been completely thrilled with the beta versions of OneCare (particularly its antispyware), but Microsoft will continue to improve it. And though many people will avoid a Microsoft add-in because they want an outside vendor, I know others who just trust Microsoft because it makes Windows.

OneCare changes the model to a pure subscription service, something you all like. But you need to do more. All of you have been more active than Microsoft in getting fixes out and alerting customers to security threats. This needs to continue. But you also have to build products that are easier to use, by making their messages and help systems clearer and by making your products work better with the software most people run. And you need to make them easier to keep up to date, perhaps requiring fewer reboots.

Between now and when Vista ships in early 2007, I hope and expect that you'll focus on improving your products so they're more stable, functional, easier to upgrade, and simpler to run. Not only is that the best way to fend off Microsoft, but it's also the best way to make everyone a better computer user. □

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Read Michael J. Miller's insights daily on his blog, at blog.pcmag.com/miller.

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BILL MACHRONE

Steal-Me White

IF YOU HAVE EVEN A SHRED OF INTEREST IN audio devices, you have probably checked out the iPod Hi-Fi, that shiny white boom box with the iPod dock on top. It garnered an Editors' Choice here in *PC Magazine* and has been well reviewed elsewhere. Everyone agrees that it sounds good and that it's loud. No one disputes that it has visual appeal. Apple didn't cut corners on construction quality, magnet weight in the speakers, or amplifier power, although the company is coy about citing wattage.

I think it's silly.

Real Hassles

First of all, if you look around the average home or apartment, you will find an abundance of Things That Play Music: these may include home theaters, high-end and midrange stereo systems, bookshelf systems, Bose and Bose-like table or shelf radios, even upscale clock radios with CD players. Which of them will you displace to make room for an iPod Hi-Fi, which has no radio and only an inconveniently located input jack at the rear?

In an ideal location—say, on a credenza located against an uncluttered wall and placed equidistant from the side walls—the iPod Hi-Fi sounds very good for its size, but it is somewhat midrangey for my tastes and unable to create a true stereo sound stage. Other locations further compromise stereo imaging. Granted, imaging isn't important if you're just filling the room with sound, but Apple advertises this thing as a replacement for an audiophile system. Audiophiles care about imaging.

Second, there's the blindingly white case. I jokingly coined the phrase "mug-me white" to describe the iPod earbuds, but the phrase has been all too accurate in some locales. So where will you take the iPod Hi-Fi so it won't attract the wrong kind of attention? A picnic in a state park? The beach? Sure, if you're going to hire security for the day. Perhaps a more appropriate venue would be the fenced patio in your gated community. Seriously, when you look at the iPod Hi-Fi, you have to wonder why Apple bothered to put in a battery capability at all—it definitely looks like a stay-at-home.

Finally, consider the iPod itself, waving idiotically from the top of the unit, in the most blatant bit of hey-look-at-me style self-consciousness since Snoop Dogg's neckwear. Most other speakers equipped with docks nestle or partially envelop the iPod in a protective nook. Not so the iPod Hi-Fi, which leaves it dangerously exposed.

Real Home Stereo

If you really want to use your iPod with your home stereo, you should get a good dock such as the Xitel HiFi-Link iPod dock. We have one and will probably get a second one. The unit is sometimes hooked up to the stereo in the kitchen, the home theater in the family room, or the boom box in the basement shop. And when it's not playing music, it's charging my son's iPod or mine.

The Xitel unit has its own remote control, which comes in handy for tasks such as adjusting the volume from across the room or skipping that song that you didn't want to hear. Of course, you can always use a generic 1/8-inch stereo cable with suitable adapters to

» MORE ON THE WEB

You can contact Bill Machrone at Bill_Machrone@ziffdavis.com. For more of his columns, go to go.pcmag.com/machrone.

Where will you take the iPod Hi-Fi so it won't attract the wrong kind of attention? A picnic in a state park? The beach? Sure, if you're going to hire security for the day.

hook the iPod up to anything that has an auxiliary port. But the charger, the remote control, and the stand-up dock all make the Xitel dock worthwhile. It also has video-out, but we haven't taken the iPod video plunge yet. My son likes the Xitel dock's SRS TruBass bass boost, but I don't—I suspect that it's one of those generational things.

Real Portability

If you really want to share your tunes with a small crowd, we have an ideal do-it-yourself project for you, which we are featuring in the next issue. I converted an old stereo cassette player—radio (it's not quite big enough to break into the boom box category) so that it stealthily conceals an iPod inside the cassette compartment. You can control the iPod by using the cassette buttons. It won't rattle the windows like the iPod Hi-Fi, but it's loud enough to make itself heard. And it's ratty enough that no one will think about stealing it, even if you leave it on your beach towel while you take a dip.

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Why You Want Vista **Now!**

It won't be on Wal-Mart's shelves until next year, but Microsoft has let loose the next Windows. We went under the covers to find the secrets in the new OS.

BY JOHN CLYMAN

MICROSOFT WINDOWS Vista, the long-awaited and long-delayed successor to Windows XP, is still in the beta-testing stages. Until recently, Microsoft held firm to a release date in the second half of this year. (And let's be candid: When Microsoft uses a vague term like "second half," that sure doesn't mean July). But then, on March 21, the company announced that though Vista would be available to businesses in November, consumers would have to wait until January 2007. So why would you want Vista *now*, when the product is likely six to nine months away from shipping?

Two words: *More fun*. Like a new car, Vista practically begs you to play with all its shiny new gadgets, see how hard you can drive it, and luxuriate in the novelty of the experience.

We admit that's not the most rational justification. Fair enough. There are plenty of down-to-earth reasons Vista is appealing. Improved security, for one. Dramatic improvements in tools that can help you cope with information overload, for another. Better support for multimedia and mobile devices, a better version of Internet Explorer, and a dramatically revamped UI, to name a few more. If Vista delivers on all its promises, you'll spend much less time performing tedious maintenance and configuration tasks and much more time being productive—or just keeping yourself entertained.

If you're an übergeek, you'll want to try Vista so you can retain your reputation of staying on the bleeding edge. If you're a developer, you'll want to see how Vista offers the opportunity to write compelling new applications. If you're an IT manager, you need to start thinking about how you'll eventually intro-

duce Vista into your organization and manage migration and training. At *PC Magazine*, we've been diving deeper into Vista with each new CTP (Community Technology Preview), uncovering useful little secrets and powerful new capabilities, excitedly sharing our discoveries with each other—and now with you.

In February, Microsoft released a version of Vista that it calls "feature complete"—that is, including all the basic functions that will be in the final product. That CTP was available only to select beta testers and members of MSDN (Microsoft Developer Network) and Microsoft TechNet. Soon after you read this, we expect Microsoft to release a consumer-oriented CTP that anyone should be able to get their hands on. As we go to press, Microsoft hasn't said how that public CTP will be distributed, but as soon as that information is released, we'll have it at go.pcmag.com/vista with the rest of our ongoing coverage.

Make no mistake: We're not advocating that you urge Uncle Jim—or whoever calls you for help after his system has ground to a halt because he's installed too many adware-laden screensavers—to start working with Vista today. Nor would we recommend installing Vista on a production system where incompatibilities, crashes, or data loss would prove catastrophic. Betas are by definition unfinished products, and our experience with Vista has been far from seamless—it can be slow, crash unpredictably, refuse to work with various hardware, cause glitches in a variety of software, and generally be a hassle. (And yes, we can hear the more cynical among you grumbling about how that doesn't sound any different from any other Microsoft OS, but we disagree; if you've kept Windows XP patched and up to date, your computing should be pretty predictable.) But if you've got a spare machine around and are comfortable living on the edge in exchange for a little excitement, then get your hands on Vista now.

» MORE ON THE WEB

You'll find *PC Magazine's* ongoing coverage of Vista as it's revealed at go.pcmag.com/vista. This page includes reviews of Vista CTPs (Community Technology Previews) as they're released, columnists' opinions on the emerging OS, and "Vista Revealed," hands-on, in-depth looks at new features.

And don't miss the Vista coverage at ExtremeTech, our sister site, including Jason Cross's optimistic "Why Windows Vista Won't Suck," at go.extremetech.com/vista.

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Because It's Cool

INSTALL IT AND YOUR JAW WILL DROP. THE VISTA GUI IS SO SLICK, so cleverly put together, that it may even impress a few Mac users. Unlike Windows XP, which had a “new” look and feel that seemed like the same ol’ same ol’, Vista takes you to a different world. Tiny widgets hover in the corner. Translucent windows flit to and fro like Disney characters. The Start Menu is actually easy to use. Not since the summer of ’95 has the Windows interface taken such a giant leap forward.

—Cade Metz

Vista Secrets

Vista includes speech recognition for both entering text and executing Windows commands. Get started in the Control Panel's Speech Recognition applet.

There are six Vista variants: For the home, Home Basic, Home Premium, and Ultimate; for businesses, Business and Enterprise; and for emerging markets, Starter.

SEE-THROUGH WINDOWS

Partially translucent windows cast thin shadows on items below, giving a 3D look and feel.

TASK SWITCHING

The old Alt-Tab key combination provides thumbnails and descriptions as well.

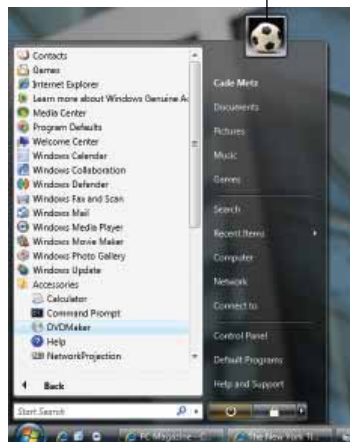


MINI-APPLICATIONS

Running along the edge of your desktop, Sidebar gives quick access to all sorts of mini-applications. You can even drag the mini-apps onto the desktop.

THUMBNAIL

Mousing over a minimized window gives not only a description of the app, but also a live thumbnail.



THE START MENU

Rather than fanning out across your desktop, as it did in the past, the Start Menu stays compact.

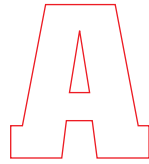


NEW AND IMPROVED TASK SWITCHING

Using the new “Windows-Tab” key combination, you can instantly spin through a 3D “Rolodex” of open applications.

YYePG Proudly Presents, Thx for Support

For a Better Internet Experience



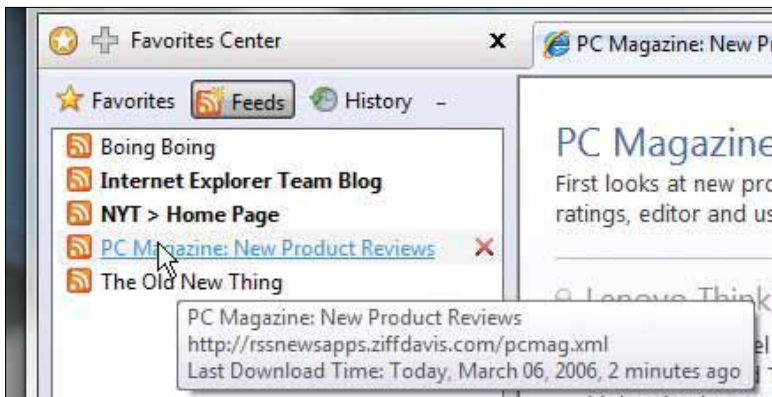
ANOTHER REASON YOU'LL WANT to try Vista now is that it offers an improved Internet experience—at least compared with the one you get with a vanilla version of Windows XP. Vista includes Internet Explorer 7, a revised version of Outlook Express called Windows Mail, and a unified RSS store.

Let's start with IE7, since Web browsing is what most users associate most strongly with the Internet. Microsoft has packed quite a few new capabilities into IE7—capabilities that are new to IE anyway, though many may seem ho-hum to Firefox and Opera users: tabbed browsing and a streamlined menu bar, antiphishing and antispoofing capabilities, an integrated RSS reader, improved printing support, and features for Web developers.

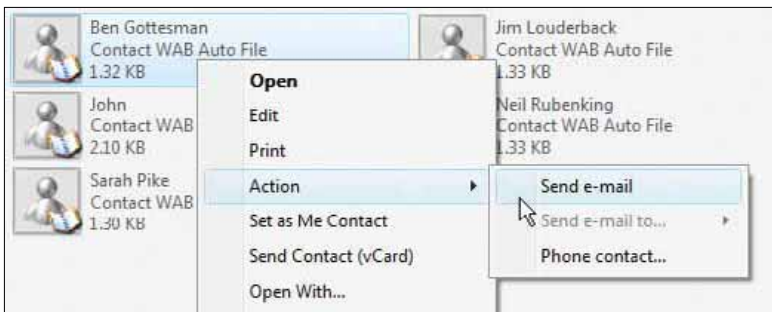
I'm pleased with the way IE is shaping up, but I can't help saying: It's about time. Microsoft released IE6 in 2001, and aside from some hotfixes and service packs—admittedly with important features such as a pop-up blocker and a better UI, to help protect naïve users against dangerous downloads—the company's browser development had languished.

I long ago stopped using IE as my primary browser because it lacked tabs, but IE7 just might win me back. If you've somehow missed out on the tabbed-browsing revolution, IE7 might give you the shove you need. Tabbed browsing lets you keep a number of Web pages open within a single browser window, using tabs to select among them. To open a link in a new tab, you can click the center mouse button (or the wheel, depending on your mouse configuration), hold the Control key while you click a link, or right-click a link and choose Open in New Tab. IE7 always keeps a blank tab open, so you can simply click it and enter a new URL. I'm psyched that tabs have finally arrived, but most of this was already available in other browsers—even in IE6 if you added the MSN Search Toolbar. But IE7 does add one unique feature, a useful “quick tabs” view that shows thumbnails of all the Web pages you have open in different tabs.

IE7 includes a Web-search box at the top right corner—it uses MSN search by default, but you can easily select a different search engine. I'm disappointed, though, that the browser can't perform incremental search (aka search-as-you-type or



RSS FEEDS Right on the cutting edge of a few years ago, Microsoft has built an RSS reader into IE7. As shown here, your feeds can appear in the IE7 Explorer bar.



MAIL CONTACTS You can now find your contacts right in Windows Explorer and even use the context menu to send a message.

VISTA: BECAUSE YOU'RE A GAMER? Microsoft has made a good show of talking up Vista for games, but gamers have remained uninterested, at best, and can you blame them? Thus far the big points have been a rich set of parental controls, pretty icons, and info pages for cataloging your library. Hardly sexy—at least, not to performance-hungry gamers.

Recently, though, a Microsoft representative mentioned something that could heat gamers' interest up quickly. No, not the exclusive PC release of Halo 2 on Vista. But there is something to be learned from the excitement over being able to play a two-year-old Xbox game. Most of us would consider the Xbox antiquated. Its 733-MHz Pentium III, 64MB of RAM, and nVidia video chip derived from the now four-generations-out-of-date GeForce 3 would barely be suitable for surfing the Net. But because the architecture allows a direct path to the

hardware, it puts on a terrific show with Halo 2 and dozens of other fantastic-looking games.

PCs, on the other hand, have been saddled with the Windows graphics device interface (GDI). Applications didn't talk to the drivers, much less the video card, directly; they talked to the GDI, which in turn interacted with the drivers for the application. So, what's the big news here? Well, Vista removes this roadblock. It's another benefit of the OS's requirement of a DirectX 9-capable video card. Though there will be a compatibility mode for older applications that need the GDI, new applications—namely, games—written specifically for Vista will be able to take the same direct path the Xbox has enjoyed, and with it get a performance boost that representatives have said may be around 30 to 40 percent. Now that's something to get excited about. —Garnett Lee

YyPG Proudly Presents, Thx for Support

word-wheel search) within a Web page, an unfortunate shortcoming considering how extensively Vista emphasizes this capability elsewhere—and that other browsers have been doing it for some time.

IE7 also offers simplified menus and adds welcome conveniences such as shrink-to-fit printing, which helps ensure that you don't cut off the right-hand side of wide pages. For Web developers, IE7 includes improved support for CSS (Cascading Style Sheets) fixed positioning and for alpha-channel transparency in PNG (Portable Network Graphics) images, which lets images on Web pages be partially transparent.

Then there's RSS—Really Simple Syndication, a technology that serious Web surfers have come to rely on for delivering regular streams of updated information, the Internet equivalent of newspaper headlines or TV-news crawls. IE7 automatically discovers RSS feeds on pages you visit and lets you view and subscribe to those feeds. But RSS support isn't limited to IE; Vista itself provides unified RSS storage, so all applications (with suitable work on the part of developers) can share a single set of RSS content. You can see this in action in the simple RSS headline component for Vista's Sidebar, which automatically picks up feeds you add in the browser.

IE7 takes steps forward in security as well, which we enumerate in the section "Because You Need Better Security," on page 74.

If you use Outlook Express for your e-mail, you'll find Vista's Windows Mail client—a tweaked version of Outlook Express—offers some advantages as well. For starters, you've got to try the incremental search: Start typing in the search box and watch as your e-mail morass gets rapidly whittled down. (Too bad Outlook itself can't do this yet.) Windows Mail also includes spam and phishing filters like those in Outlook. And despite its name, Windows Mail still serves as a newsgroup reader as well; in fact, it includes a link to Microsoft Help newsgroups by default.

Windows Mail stores its data differently from Outlook Express, using a combination of Vista's file system and built-in Jet database engine, which Microsoft claims will make for more bulletproof storage. And here's something really cool we found: Windows Mail stores contacts right in the file system, so you can view and sort your contacts, or send them e-mail, from directly within the shell.

I might not consider any one of Vista's Internet-related features compelling by itself, especially given how many of them are just a download away if you're using Windows XP. But put them together and Vista makes using the Internet a bit safer, more productive, and more enjoyable.—*John Clyman*

ARE YOU READY? Jon Peddie Research (JPR) estimates there are around 1.2 billion computers in use today—not sitting on shelves in the garage, but actually in use. A good percentage of these are running pre-XP Windows OSs.

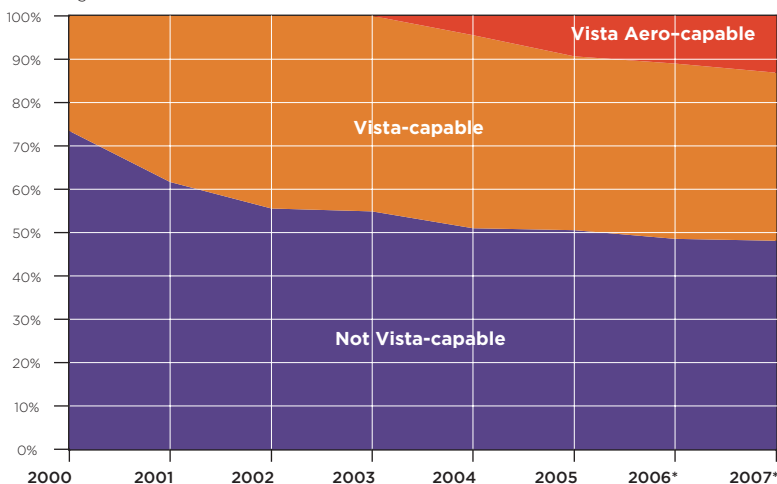
Based on two decades of data collection on shipments of both add-in graphics processors and integrated graphics cards, JPR determined that approximately 51 percent of the PCs in use as of the end of 2005 weren't ready to run Vista (see chart). But Vista interacts with PC hardware differently from previous versions of Windows, as it taps the power of the graphics processor. The resulting interface improvements, collectively known as Aero Glass, go far beyond eye candy like transparent window edges and truly change the computing experience. According to JPR, only about one in ten PCs is ready to mine Aero Glass's richness.

You don't have to be left out in the cold, though—and you don't necessarily need to buy a new computer. To enjoy the nice Aero Glass interface in Vista, you'll need a reasonably modern DirectX 9-capable graphics card—integrated graphics just won't do. This doesn't mean you need to spend a lot of money on something high-end. The nVidia GeForce 7600 GT and Radeon X1600 Pro cards run Vista great, are available in both AGP and PCI Express, and cost under \$200.

PCMag.com sister site ExtremeTech recently put a new crop of graphics cards through the wringer. You'll find the results online at go.extremetech.com/graphicscards.—*Jon Peddie & Jason Cross*

PCs Ready for Vista

Percentage of PCs in active use



Source: Jon Peddie Research. *Projected.

OUR CONTRIBUTORS: John Clyman is a contributing editor of *PC Magazine* and president of the technology consulting firm Narrative Logic. Cade Metz is senior writer at *PC Magazine*, and Oliver Kaven and Neil J. Rubenking are PC Magazine Labs lead analysts. Garnett Lee is the managing editor of 1up.com, Ziff Davis's site for gamers, Jason Cross is a lead analyst for ExtremeTech.com, Mary Jo Foley is the editor of Microsoft Watch (www.microsoft-watch.com), and Jon Peddie is the founder of Jon Peddie Research, a consulting firm specializing in graphics and digital media technology. Features editor Sarah Pike was in charge of this story.

Vista Secret

Feeling some trepidation about installing the beta? Make Vista coexist with your existing OS: You can install it on a separate partition (we recommend PartitionMagic, www.partitionmagic.com), or install it on a virtual machine by using Microsoft Virtual PC (www.microsoft.com/virtualpc) or VMware Workstation (www.vmware.com).

To Regain Control of Your Files, Your E-mails, Your Photos....



THE START MENU

More contained and efficient than before, the Start menu includes an incremental search box.

ONE OF VISTA'S BIGGEST PROMISES—and one of the best inducements to want it now—is to help you regain the upper hand in the battle against information overload. We've all experienced it: the inbox bursting with e-mails you don't have time to sort, the directory tree with files buried a dozen levels deep, and the mass of digital photos you never figured out how to organize.

Originally, Microsoft was going to solve this problem with WinFS (Windows Future Storage)—but WinFS won't make it into Vista in time. Still, my experience so far indicates that Microsoft is making strides in this direction after all. With pervasive search, I can easily find files regardless of what dark corner of my hard drive they're hiding in. New ways of viewing and entering metadata to help identify files are just taking shape, but they look promising. And I particularly like Vista's "Search Folders," which let you dynamically collect files that meet certain criteria, regardless of where they're actually located.

In Vista, Microsoft has revamped Windows Explorer to make it easier to navigate your hard drive—its nifty "breadcrumb" facility for selecting directories is especially convenient. The breadcrumbs are the clickable trail of directories a user has followed to get to the current location, for example, *YourComputerName* > Pictures > Vacation photos > 2006. New file dialogs are a big improvement as well. Although these capabilities aren't likely to be a panacea, they're sure tantalizing, and I'm eager to start moving more of my

day-to-day work onto Vista to see just how effectively it helps me with these masses of data.

Search is just about everywhere in Vista. Open the Start menu and you'll see an embedded text box. As you type in the box, Vista starts showing data that matches your search term: application names, file contents, even e-mails. It's very satisfying to know you can get to *all* your data from this one box—I'm even considering giving up Google Desktop Search.

Many users will probably find the single text-box search interface meets most of their search needs. But here's a secret: Try Vista's parametric searches, such as "all the music files from albums released in 2005 that I've rated 4 stars or higher," which are sophisticated and easier than ever. You build these searches using the simple point-and-click interface in the Advanced Filter Pane, accessible from the drop-down menu to the right of the Search box, then save them as Search Folders, which you can open at any time to see dynamic, current results.

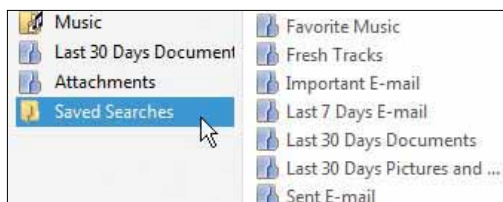
File browsing is improved as well. The expanding list view that shows all your applications in the Windows menu is easier to navigate than the cascading program menus in Windows XP. One feature you don't want to miss is Windows Explorer's scalable live icons—thumbnails of documents' actual contents rather than simply the icon of the application that created them. These make it far easier to find the file you're looking for at a glance (with some file types, such as Microsoft Office's, you may need to check the "Save preview picture" check box in the File | Properties dialog). Windows Explorer lets you tag files with metadata such as ratings or keywords and then use this data for grouping, sorting, filtering, or searching within it, providing hope for escaping the tyranny of having to organize all your files within a fixed directory hierarchy.

Vista also includes file-synchronization features, improved backup, and the ability to roll back to previous versions of files.

What about transferring your existing data and apps to a new PC? Vista includes an updated migration wizard, though we haven't yet gotten it to work in beta builds. This wizard transfers only data and settings, not entire applications—but in March, Microsoft acquired Apptimum (formerly Eisenworld), maker of the Alohabob utilities for transferring programs from one PC to another, so we wouldn't be surprised if Microsoft makes it possible to move apps in the future. —John Clyman

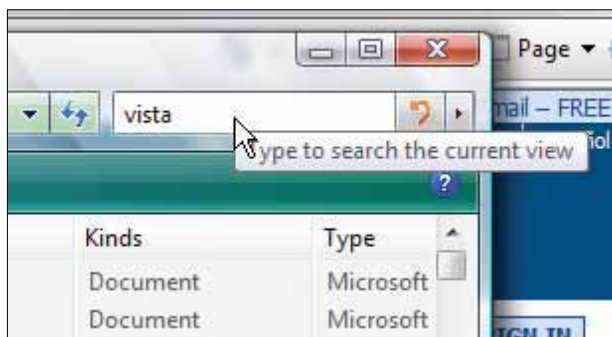
SAVED SEARCHES

You can save a group of search criteria, then go back to the "folder" for dynamically updated results.



SEARCH

These incremental search boxes are just about everywhere in Vista. As you type, the search results narrow down.



YYePG Proudly Presents, Thx for Support

Because It's Loaded with New Multimedia Tools

ALL THOSE MULTIMEDIA TOOLS IN Windows XP? Child's play. If you're serious about PC audio and video—about watching TV, listening to music, making movies, managing your digital photos, all from your PC—Vista is the place to do it all. For the first time, Microsoft includes a bona fide photo manager—not the skimpy “photo viewer” you'll find in Win XP. In addition, you get beefed-up versions of Windows Media Player and Movie Maker. And with the Premium or Ultimate versions of the OS, you even get an updated version of Media Center, the home entertainment system that used to be a separate operating system.

The moment I first opened Vista's new Photo Gallery tool, I knew Microsoft had gotten it right. Finally, a single place where we can organize, edit, and share our digital photos. Win XP failed to offer any editing or sharing options, and its organizational tools were almost an insult. Windows Photo Gallery can't quite compete with free photo managers like Picasa (my favorite) and Prelick, or with Apple's iPhoto, but it's still a big step for the OS.

With Photo Gallery, you can organize videos as well as photos, quickly searching and sorting them via tags, dates, and ratings. I love the “slider” button, which lets you instantly resize the thumbnails on your virtual light-table, and the default “Ken Burns” slide-show effect, which dynamically pans and zooms each photo.

And here's a little secret: Photo Gallery actually integrates with the updated Windows Movie Maker, which means you can instantly, easily move photos and videos from one to the other. You can spice your movies up with all sorts of new effects and transitions. Perhaps best of all, now that Movie Maker takes advantage of your graphics processor, it no longer limits movie previews to a tiny 320-by-240 window. And when your movie is finished, you can seamlessly burn it to disc using Microsoft's new DVD Maker tool; you can even add chapters and menus.



PHOTO GALLERY Vista adds basic photo organizing, editing, and sharing tools to its photo viewer.



WINDOWS MEDIA PLAYER 11 WMP has a fresh new interface to help users better organize their music, as well as sync their music libraries with portable devices and, of course, burn discs.

Meanwhile, Windows Media Player 11 offers a fresh interface, making it easier to organize, find, rip, and burn your audio files. My favorite perks: You set up songs for burning with a mere drag and drop, and you can add cover art with a simple paste command. I'm into browsing by album cover, too. Media Player is also better at syncing portable devices, certainly a welcome improvement. Check out the “random sync” feature, which can turn any MP3 player into an iPod shuffle. (Whether that's a good thing is still up for debate.) And when Vista finally debuts, Player will work hand in hand with URGE, MTV's new online music service, which will offer more than two million digital tracks. Make no mistake: Vista can excite the senses. —Cade Metz

Vista Secrets

Want to see what Vista looks like with Aero Glass disabled? Press Ctrl-Shift-F9. (This will work in beta releases only, not production versions.)

You can control volume levels on an application-by-application basis using Vista's new audio control panel.

Having trouble installing a hardware device in Vista? Try using the Windows XP version of the driver.

Press Windows-Tab to get the cool “Flip 3D” view of all your open applications.

Because You Need Better Security

Vista Secret

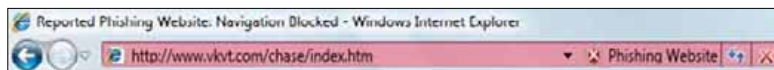
In any folder containing image files, click "Slide Show" in Windows Explorer to create a great-looking impromptu slide show, albeit one that takes a decent amount of graphics horsepower. Windows XP's included slide show is rudimentary by comparison.

IF YOU CAN READ THIS, YOU PROBABLY run Windows XP in administrator mode. There's no cause and effect here. It's just that, while Win XP allows and recommends creation of Limited user accounts that make many exploits impossible, a vast number of programs and common activities don't work under a Limited account, so typically, everybody's an Administrator. This is one of Win XP's biggest security problems.

Vista's User Account Control (formerly User Account Protection) should go a long way toward fixing this. Microsoft aims to allow the widest possible range of activity in a Standard (don't call it Limited!) account and handles legacy programs that assume greater privilege. Any Administrator can grant one-time permission when necessary. And now, even Administrators run at Standard level, with a warning from Vista when elevated privilege is required. Unfortunately the frequent "Windows needs your permission . . ." warnings can get pretty annoying.

The implementation of Windows Service Hardening, a related feature, has been completed since Vista Beta 1. It minimizes the impact of malware that exploits Windows services by allowing each service access only to the resources it actually needs.

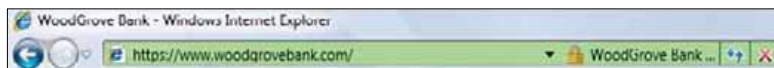
These protections may make it harder for hackers to take advantage of the OS, but today the bad guys are just as likely to try to take advantage of you instead. That's why IE7 in Vista now implements Microsoft's antiphishing scheme. I tried it on known phishing sites and one with an invalid security certificate—it red-flagged them and blocked access. Sites with verified security are green-flagged;



Red=Danger!



Yellow=Suspicious



Green=Certified

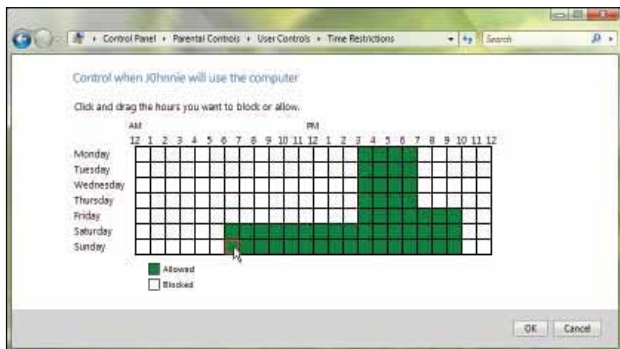


PARENTAL CONTROLS Parents can limit kids' Web site access and game-playing—and see detailed activity reports (above). The clear, simple Time Restrictions grid (right) lets parents easily define which hours on which days which kids can be logged on.

others get a yellow rating if analysis of their HTML code reveals suspicious elements. Spyware protection from Windows Defender (for a review, see go.pcmag.com/vista) is now built into Vista, and it automatically scans any files downloaded through IE. And as IE7 is a prime target, Vista safeguards it further by having it run in Protected Mode, a still-lower privilege level designed to thwart browser-subverting malware.

In Beta 1, Vista's Parental Controls system could limit access to games by name, content, or ESRB rating. This was nice, but most parents are more concerned about what their kids are doing online and how long they're spending soldered to their systems. Now that the Parental Controls system has all its planned features it addresses these issues, going much further than in Beta 1 and rivaling some third-party products. The administrator can limit the days and times each user is allowed on the computer and establish a list of approved programs (denying access to all others). Web-site filtering based on content, whitelists, and blacklists is available on a per-user basis. And Activity Monitoring will report a wealth of details about the user's actions, including the top ten sites visited, blocked sites, files downloaded, applications launched, and more. I put a Standard account under Parental Control and tried to hack the protection, but I couldn't break it.

YYePG Proudly Presents, Thx for Support



Unlike the firewall in Windows XP, the Windows Firewall in Vista protects against unauthorized outbound connections. New in the latest CTP, this outbound protection has a configuration interface. It's not for the faint of heart, but an expert user can tweak dozens of existing exceptions or create new exceptions to let specific programs do their job.

When I travel with my notebook, I'm always concerned that someone will swipe it and use the many tools out there to get a peek behind the PC-Mag curtain. Vista's BitLocker Drive Encryption

(formerly Secure Startup Volume Encryption) will help, making the drive unreadable to all but me. In the earlier beta this would work only on a system containing a Trusted Platform Module chip. Mercifully, BitLocker now works on any system, encrypting all but a sliver of the boot disk. Systems can be decrypted at start-up after you supply the password or insert a coded USB drive. A laptop thus protected may still be lost or stolen, but the data on it won't be revealed.

Digging into the Group Policy settings, I discovered two useful security secrets.

The new Removable Storage Access policy can deny read, write, or execute status to removable devices—from CD drives to personal audio players—to prohibit “slurping” files into an iPod or thumb drive. And the Device Installation Restrictions policy limits the types of devices that can be installed, though you need to know the Device ID or Device Class.

Will hackers find weak spots in Vista? Most definitely—but from what I can see, they're going to have to work a lot harder at it.—Neil J. Rubenking

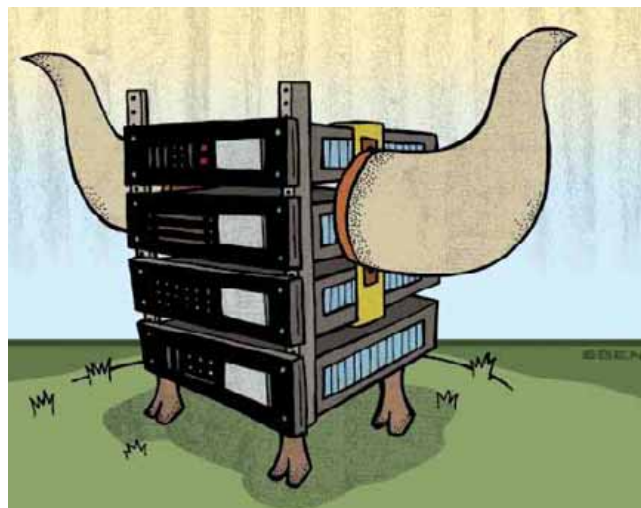
WHAT ABOUT LONGHORN SERVER? Though most of the excitement in the OS world is focusing on Windows Vista, some people may be even more anxious to see Longhorn Server, scheduled to be released next year. I spoke with Microsoft about its plans for the next Windows Server.

As with the client OS, the development team cites security, management, system health, and reliability as chief concerns. This new server release will have major improvements, starting with the installation process, which includes a significant procedural change: The system remains in a “shields-up” mode until it is sufficiently secured. The Administrator can specify roles with a system definition model, such as Web server or terminal server, at install time, and the system will automatically search for and apply the appropriate patches. It will also limit the attack surface by disabling services and features not necessary for the server's defined role.

To ensure good system and network health, Longhorn Server adds NAP, or Network Address Protection. NAP can be configured to require that computers attempting to connect to your network comply with predefined requirements. Administrators can create policies to validate each new computer's system health before any general communication on the network takes place. Noncompliant computers can be automatically updated or restricted until they become compliant.

Longhorn's new error-reporting system is tied closely into other administrative elements. It will allow for far greater log data storage and help with analytical troubleshooting. Rather than browsing miles of log entries in the log viewer, administrators will have access to the data where they actually configure specific system components.

Longhorn Server will also include a host of other improvements and new features, including improved management capabilities, a new version of Internet Information Services, and a distributed cached-storage technology. In addition, Longhorn will include “Windows Communications Foundation,” which will



aid in distributing applications over the network, and a “self-healing” filing system.

Alongside the long-awaited Longhorn Beta 2 release, Microsoft will also release management improvements like “Monad,” a new scripting shell that provides Unix/Linux-style command-line administration.

Since the initial Beta 1 release last July, Microsoft has released some builds of the next Windows Server, but none were classified as CTPs or betas. Before the actual release, we expect to see another major beta, and I for one can't wait to get my hands on it.—Oliver Kaven

YePG Proudly Presents, Thx for Support

Vista Secret

If you accidentally overwrite a document, you can use Vista's implementation of Volume Shadow Copy to roll back changes—just click on the file and select “Previous Versions” on the Windows Explorer toolbar.

Because You're Mobile



SIDESHOW *Splice some flip-phone genes onto your laptop and you have SideShow. PortalPlayer is working with notebook vendors on prototypes that support this very cool, integrated display, which works even when the laptop is off.*

Vista Secrets

In IE7, hold Control and spin the mouse wheel to zoom in or out on an entire Web page, including graphics.

To show all the shared files and folders on your computer, open File and Printer Sharing from the Control Panel and follow the links.

You can detach gadgets from the Sidebar so they float on your desktop.

BYOND THE NEW AD HOC NETWORKING and collaboration capabilities, frequent travelers—or really, any of us who carry notebook computers—have some particularly compelling reasons to want Windows Vista now.

To begin with, I really like the way Vista collects key mobility-related features into a convenient Mobility Center. The new OS also improves power management, includes better wireless-networking features, and promises to enhance performance and security. Vista's slick Aero Glass interface will even run on sufficiently high-powered notebooks—but temper your enthusiasm; using it on notebooks has presented numerous compatibility and stability problems. Lately I've been traveling with a Vista notebook in my bag—but it's nestled in there alongside another notebook that runs Windows XP and serves as an essential backup.

Vista's sexiest mobility feature is what Microsoft calls SideShow. Think of the external display on a clamshell cell phone. A SideShow display can perform a similar purpose, displaying for example, a calendar, contact information, stock quotes, or e-mail subject lines. The coolest part: The SideShow display will work even when the computer itself is powered down. That means no more waiting for your machine to boot up just so you can get directions to your next appointment. Now all that remains is for hardware manufacturers to start designing devices with SideShow-capable secondary displays.

SideShow may not be here today, but Vista's new power management features are something you can benefit from right now. Notebooks running the new OS at last approach the near-instant on-off switching that we've come to expect from consumer electronics devices. Vista's new Sleep mode replaces distinct Standby and Hibernate modes. Press the power-button icon on the Start menu and your machine will fall into a slumber almost instantaneously. Vista writes the contents of memory to disk so they won't be lost if the battery runs out of juice; but it also keeps that information in memory, so a typical restart is very quick, since Vista doesn't need to read from the disk. Although the sleep/resume sequence has been crash-prone in the releases we've tested so far, I like the direction Microsoft is taking here. The Control Panel also includes a new Power Options applet with easy-to-understand "power plans"—profiles that let you select device timeouts and choose to favor faster performance or longer battery life.

Be sure to check out the convenient mobility center, which unifies all your laptop-centric features in one place. Try plugging in an external display; Vista automatically detects it and helps you configure it. Vista also includes improved options for configuring wireless networking.

Another feature is an interesting performance-enhancement technique called SuperFetch. If you carry around a USB key for storing data, you can instruct Vista to use the storage on that key as a quicker alternative to

Yes! Proudly Presents, Thx for Support

To Work Together Better

Vista Secret

When multiple instances of an application are grouped into a single taskbar button, clicking the button and then mousing over individual instances of the application previews each app window independently.

WITH ITS ROOTS IN DESKTOP operating systems and applications, Microsoft hasn't always been first to recognize the importance of networking and collaboration. Vista, though, makes some significant strides in this area, with several new features built in. The changes extend all the way from the low-level TCP/IP stack to the application level. Vista even includes—at last!—a simple calendar application that lets you schedule meetings with others.

The feature I'm most excited about here is Windows Collaboration. Now, when you walk into a meeting room (or café) full of other notebook-toting users, Windows gives you an easy way to work collaboratively. Windows Collaboration provides an impressively seamless way to share applications and supporting files ad hoc among a small group of other Vista users. Vista is supposed to let Wi-Fi-enabled notebooks establish a peer-to-peer network in spots that lack Wi-Fi infrastructure or even an Internet connection.

When you launch it, Windows Collaboration asks if you'd like it to enable file synchronization automatically and set up the required Windows Firewall exceptions. You then have an opportunity to start a new collaboration session or join an existing one. Choose people to invite—via e-mail or a file share—and set a password. Invitees just

open the invitation and enter the password, and you all then find yourselves in a shared workspace. You can share individual application windows or files, transfer control to other users, and instant-message other participants.

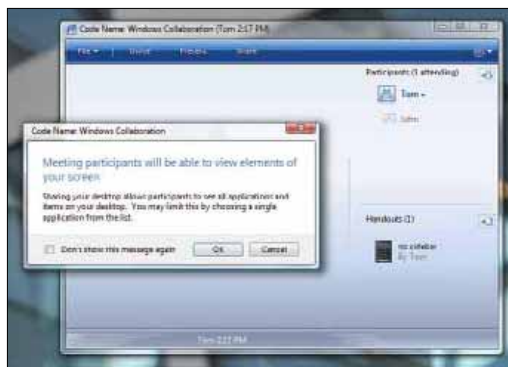
Vista also includes a Network Projection feature that lets you connect to networked LCD projectors, which are becoming more commonplace, either by entering a specific known address or by browsing the LAN for suitable devices.

In general, I like Vista's simplified facilities for configuring and browsing networks. The new Network Center applet in the Control Panel provides a one-stop overview of all your network settings. Vista's network map automatically discovers and displays various devices on your network. And I was psyched to find that Vista maintains multiple network profiles (no more reconfiguring network settings manually every time I visit a different office), simplifies connection to wireless networks, and provides additional network-troubleshooting tools. Vista also simplifies common tasks such as file sharing.

There's more below the surface. Vista's "People Near Me" API gives developers a suite of tools to help build peer-to-peer applications that can automatically identify people who are physically nearby on the network. Similarly, a Network Awareness API lets applications detect when a PC starts using a different connection—and behave appropriately. And Microsoft has largely rewritten the operating system's TCP/IP stack; among other improvements, it directly supports IPv6 and enables it by default.

As in Windows XP, Microsoft will include different sets of networking features in different editions of Windows. Remote Desktop, for example, will be available in the Vista Business, Vista Enterprise, and Vista Ultimate editions, but not in the Home editions.

Calendar applications might not seem all that exciting or important—until you need to schedule a meeting between various members of a work team or a family. Windows Calendar's interface will be familiar to Outlook calendar users. The app lets you create appointments, including all-day and recurring appointments, and specify reminders with variable lead times. You can invite other users to a meeting via e-mail, publish a calendar to a WebDAV server to share it over the Internet, and subscribe to other users' published calendars. Windows Calendar (nominally) supports multiple time zones and task tracking. It's not a substitute for Outlook—it can't sync with mobile devices, for example—but it does support the iCalendar calendar-sharing format and certainly should fulfill casual users' appointment-tracking needs. —John Clyman

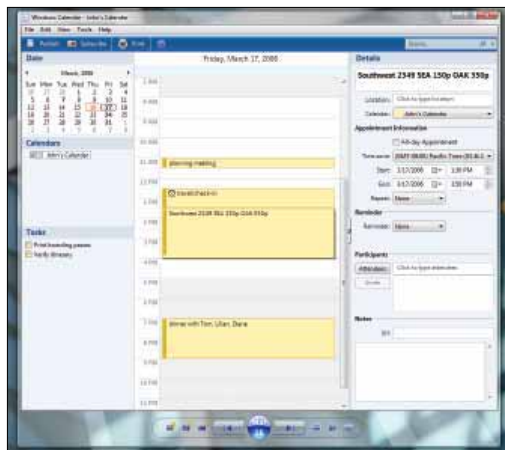


WINDOWS

COLLABORATION Walk into a meeting and Windows will help you work with other participants, sharing applications and information.

WINDOWS CALENDAR

Finally, a simple calendar app right in the OS. It's not terribly sophisticated, but it's a very welcome addition.



YYePG Proudly Presents, Thx for Support

Keeping Up with the

WE ASKED THE INDUSTRY'S TOP DESIGN EXPERTS TO reveal their most innovative ideas for future products. Some of these concepts will become commercial products in the near future. For others, we'll have to wait until the technology catches up with the imagination. Freeing themselves from the real-life limitations of bandwidth, processing power, battery life, and screen resolution, our designers imagined a fascinating array of inventions, including a snowboard that displays messages, a video postcard, a personal projection necklace, and a networking pen. Here are some of their most inspired concepts.



SANDRINE LEBAS
Senior Industrial Designer, Lunar Design
We observed children throughout their day—the way they use technology and what activities they do. We came up with the idea that a lot of products are still to be designed with existing technology. Sometimes you don't have to go to advanced technologies for newness. My daughter is 2½, and I can totally see her using this product.



TORTUGO

The Concept: Designed by a mother to keep the kids entertained during long trips, this portable DVD player/activity center conceals a digital scribble pad underneath the digital camera (the flat circular component). A child can pop out the camera and snap some shots. Photos are automatically downloaded and displayed on screen. A retractable shoulder strap and a soft pouch for snacks are included.
Designer: Lunar Design

YYePG Proudly Presents, Thx for Support

A fleet of concept designs that propel tech gear into tomorrow.

BY CAROL L. GONSHER AND ERIK RHEY

Jetsons



DIGITAL BRACELET

The Concept: The high-tech hub of Nokia's always-connected Star Trek lifestyle, this bracelet contains a cell phone and a remote to control your personal content and entertainment gear. Through an indoor positioning system it will automatically sync with whatever "eco-system" you step into (home, work, or the mall). It also recognizes voices and gestures and has built-in RFID and broadband. A great idea for an all-in-one convergence device—as long as you don't misplace it.

Designer: Nokia





MAX YOSHIMOTO
VP, Design,
Lunar Design

Our goal is to get people to think differently about how to trade media back and forth. It's an idea based around flexible electronics techniques—flexible printed circuit boards, displays, and power. It's almost like a postcard of the future.



MICROMEDIA PAPER

The Concept: Bringing the concept of moving, talking photos from Harry Potter to real life, this paper-thin media player—complete with display, battery, and memory—lets you record video. Send it as a greeting card to Grandma and she can watch it without fiddling with a PC or DVD player. A ten-pack will sell for around \$35. All the enabling technologies are now in development.

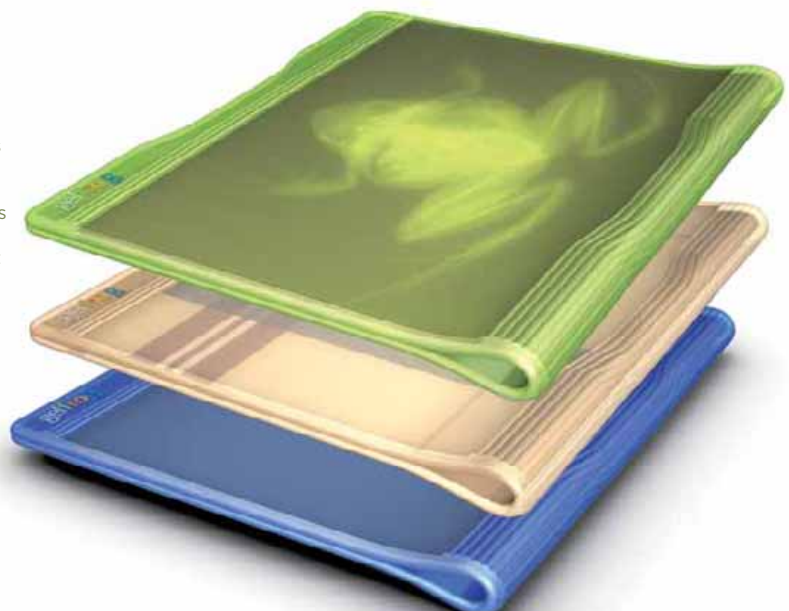
Designer: Lunar Design



GELFROG

The Concept: For kids only: This super-pliable rubberized notebook is not only rugged and lightweight but light-years ahead in software design. The gelfrog's smart skin acts as a mobile mirror, a photo slide show, or a video projector. Using its microcamera, it can run a cloning algorithm that scans the owner's outfit and projects a matching pattern on its own surface. Students can scan images from their surroundings and can study several topics via a single interface.

Designer: frog design



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SMART PILL BOTTLE

The Concept: Electronic ink is just the prescription for this smart pill bottle that does everything but take your pills for you.

Twisting the cap onto the base activates the label, which displays information such as when the last dose was taken, when a refill will be needed, and warning messages. The brains are built into the cap, which communicates wirelessly with your pharmacist.

Designer: Design Continuum



MICHEL ALVAREZ
Industrial designer,
Design Continuum

In redesigning one of the most misused and prevalent products in our society, I wanted to improve the communication between consumers and their prescriptions. Flexible display technology from E Ink lets this product speak more to the user's necessities.



EXO OVERMOLDING SYSTEM

The Concept: Prefer your notebook in suede or denim? Inclosia Solutions, a spin-off from Dow Chemical, has developed an injection molding process that bakes fabric, leather, wood, or metal onto the plastic housing of notebooks. But luxury trim won't come cheap. In a consumer study the company ran, people said they'd pay an extra \$62 for a cell phone and \$143 for a notebook with the new treatment. Look for it initially in Europe this year.

Designer: Inclosia Solutions



YYePG Proudly Presents, Thx for Support



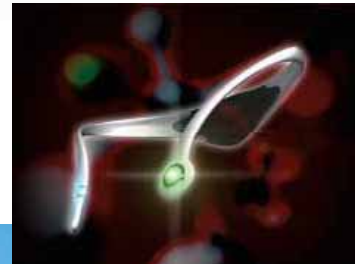
PAUL BRADLEY
Project Lead, IDEO

It really needed to be compelling to kids so that they could play and learn. Spark doesn't say "education" like a laptop. We were going for a much more personal feel, for the way kids relate to gaming devices that become precious to them.

SPARK

The Concept: Hatched in collaboration with Project Inkwel, a group aiming to bring the tech industry together on a spec for educational computers for the K-12 set, the ultraportable, ruggedized Spark is designed to withstand abuse. It has always-on real-time access to the Internet, peer-to-peer networking and online journaling, a docking station, a pen, a headphone, and a personalized cover. It's also waterproof. Design house IDEO gets an A+ for this one.

Designer: IDEO

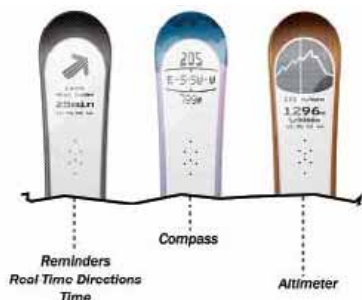


TRIBONS

The Concept: Guaranteed to garner odd looks, the Tribons is a wearable laser projection system that exists mostly in the imagination of frog design CEO Hartmut Esslinger, the legendary visionary behind early Apple computers. Controlled by an intuitive 3D interface, the Tribons projects educational material and gives kids access to environments they would otherwise not be able to experience. An extra medical module can monitor the wearer's health.

Designer: frog design

YyePG Proudly Presents, Thx for Support



E- SNOWBOARD

The Concept: The next phase of multitasking for teens is checking your stats while nailing a frontside ollie or an Andrecht. Your kids will impress their friends with this totally sick snowboard that displays reminders, real-time directions, time, and compass and altimeter readings via an electronic ink display that covers almost its entire surface. Power is created by tapping, stomping, bending, or riding the board.

Designer: Design Continuum



MIKE TRACZ

Industrial Designer,
Design Continuum

The risks associated with snowboarding, like getting lost, equipment theft, being separated from one's group, or losing track of time, presented an interesting chance to incorporate design to improve the experience or prevent these potential pitfalls.

TAG

The Concept: For cell-phone klutzes or techno-fashionistas, this NEC "soft-shell" mobile phone is de rigueur for your wardrobe. The phone is so flexible it can wrap around your arm. Shape-memorizing material and multiple pressure sensors allow it to change shape from its phone mode to its video mode.

Designer: NEC



P-ISM

The Concept: If you think the fanciest pen you can buy is a Mont Blanc, NEC has one-upped it with the minimalist personal networking pen. It's a cell phone with hand-writing recognition, a virtual keyboard, a tiny projector, a camera scanner, and a personal ID key with cashless pass function. P-ISMs can connect to each other wirelessly, and the whole set is connected to the Internet through the cell phone.

Designer: NEC



Keyboards For Less

Talk is cheap—and so is Loyd Case. Our man hits the stores for \$20 keyboards.



YYePG Proudly Presents, Thx for Support

BY LOYD CASE

IT'S TRUE. WE'RE FINICKY ABOUT KEYBOARDS. We write a lot of stories here at *PC Magazine*, and the right keyboard makes typing thousands of words a week much easier to bear. We also play a few PC games. It's a shocking idea, I know—after all, it's obvious that we're a very serious bunch.

Interestingly, the needs of PC gamers and the wants of touch typists aren't always the same. A touch typist needs to be able, well, to type—often at fairly high speeds, with reliable key presses and tactile feedback. A gamer needs a responsive keyboard with a layout that's not too odd. Therein lies the problem with dedicated gamer keyboards, like the Wolf Claw, a mostly normal keyboard with a wacky circular gaming area. It's great for gaming but impractical for most anything else. Logitech's G15 is a good compromise, or Microsoft's Natural Ergonomic Keyboard 4000, but these are pricey, and not everyone needs (or can afford) a \$50-to-\$70 keyboard.

I wanted to help. Knowing the ideal solution was out there somewhere, I grabbed a credit card and did a little shopping. The keyboards I found weren't one-off, Internet-only specials, and none were special sale items. Four were on the shelf at a local

Fry's Electronics, and two were bought at Central Computers, a white-box outfit in the San Francisco Bay Area. But all were under \$20, and three were less than ten bucks.

Of the six items I found, all were essentially straight keyboards, not split designs, though the Microsoft model does add a curve to the keyboard row to relax the wrist position slightly. Oh, and none are wireless. While you may occasionally see deals on wireless keyboards online, the cheapest one I could find was \$29. All connected via the PS/2 port except the Microsoft Comfort Curve 2000, which is USB.

I tested the keyboards by typing parts of several articles on each one and gaming with *Unreal Tournament 2004* for relatively extended sessions—working around here can be a tough job sometimes. With these thoughts in mind, let's take a look at the individual keyboards. We'll start with the lowest-priced keyboards and work our way up. A final thought: These keyboards may not be available everywhere. And even

if you do find them, they may not be as cheap in your local store as they were in mine. It takes some hunting to be a true cheap geek.

Smaller, Not Better

First out of the shopping bag: the Inland Pro Keyboard Typematic, pulled from the shelves at Central Computers for a mere \$7.99. If you have a snug work area, this may be a useful keyboard. It offers buttons for Power and Sleep, plus a unique Turbo button. When you press the Turbo button simultaneously with one of the first seven Function keys, you can increase or decrease the speed of repeated keys.

The Inland feels cramped. The width of the home key row is 2mm less than on most of the other keyboards—a minute number but a big difference: It felt small, and my fingers felt too close when typing. And it's a noisy keyboard, making lots of loose clicking noises and requiring extra force to press the keys. Pressing the Turbo and F11 keys locks and unlocks the keyboard. If you have cats or small children, this is a useful feature, but it's not for security, since you don't need a password to unlock it. The only things this keyboard really has going for it are its low price and compact size. Everything else is something to avoid. Next!

Cheap Fry's Gear

In disgust I turned to my giant Fry's shopping bag and pulled out the \$8.99 Labtec Media Keyboard. Labtec is part of Logitech now, although you'd never know it from this keyboard, which feels nothing like most Logitech keyboards.

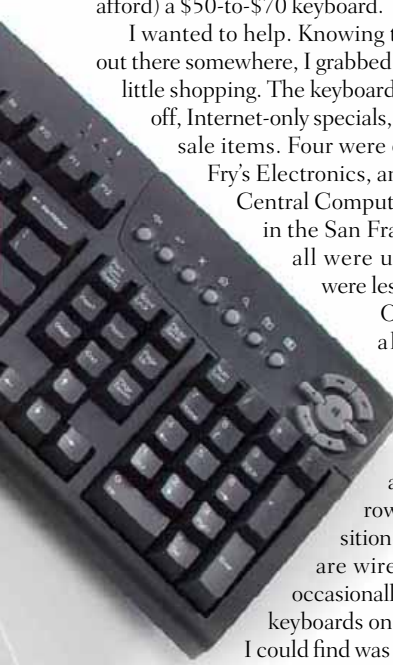
The Labtec's keys feel mushy and take a fair amount of pressure. Tactile feedback is also poor, and often when I thought I had pressed the right key, I found that I had made a typing error. I got better over time but still made a lot more mistakes than I would have on a good keyboard. Playing *UT2004* was just fine, although after the session my fingers were a bit tired. Overall, this keyboard is hardly a joy to type on, but it gets the job done. And some users may appreciate the full set of customizable buttons. I'll pass.

Another Fry's gem was next, from Key Tronic—a brand that's been around about as long as the IBM PC. The overall spacing, layout, and key depth of the \$9.95 Key Tronic KT800PS2 are actually reminiscent of the original PC keyboard, but the Key Tronic doesn't offer that clicky key feedback that endeared the original IBM unit to its users. In fact, the Key Tronic required the greatest pressure of any keyboard I tested—an excessive amount, really. Nevertheless, this keyboard is built like a tank, so if you need a rugged model, this will serve you well.



Jim Louderback's Keyboard Tips

I'm a bit of a keyboard nut. I've got a basement full of old IBM PS/2 keyboards, because the buckling spring action delivers the best tactile feedback of any I've found—way better than those rubber domes inside cheaper models. If you can afford a few more bucks, check out my favorite, from Unicomp (www.pckeyboard.com). Unicomp purchased IBM's keyboard technology and continues to make what I consider the best keyboards on earth. If you touch-type and value mechanical tactile feedback, these are the ones for you. Even better, they're not too expensive—they start at \$50. For a few more bucks you can get an integrated pointing stick, and the space-saver model emulates the best of IBM's notebook keyboards.



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REAL-WORLD TESTING

LOGITECH MEDIA KEYBOARD

Nice set of amenities, including a useful customization utility. Rotated Home/Page Down cluster may annoy some. Physically large compared to other keyboards.

LABTEC MEDIA KEYBOARD

Good layout; very nice utility for customizing special buttons. But keys feel mushy, and presses take too much effort.

KEY TRONIC KT800P52

Nicely sculpted keys and rugged design. Built like a tank, this keyboard is so solid you'll never wear it out.

MICROSOFT COMFORT CURVE KEYBOARD 2000

Relaxes the wrist angle a bit for easier typing. Raised curve to Function keys is less than ideal for gaming.

INLAND PRO KEYBOARD TYPEMATIC

Feels very cheap, and key spacing seems tight. To be fair, it is wicked cheap—just \$7.99!

BTC MULTIMEDIA KEYBOARD

Direction arrows too close to the Page Down cluster. Multimedia transports laid out well.



Next up: the BTC Multimedia Keyboard (\$12.99), which offers the same Internet and multimedia keys as the Labtec, Logitech, and Microsoft models. The transport keys are a full set, including a Skip Track Forward and Backward button, though the Up Arrow key butts against the End key, which makes it too easy to press the wrong one.

The keyboard ships with a floppy (!) that installs a utility for redefining the special Function buttons. The keyboard is the only one I tested with multiple height angle adjustments, but the process seems to make for fragile results. Playing UT2004 worked well, and the light key presses make game play easier. Your \$12.99 buys some nice amenities with the BTC.

Finally, at the bottom of my shopping bag, the good stuff. At nearly \$20, the Microsoft Comfort Curve Keyboard 2000 is sort of expensive, but it's the closest approximation to a split ergonomic keyboard I tested. Microsoft curves the main keyboard layout around an invisible inverted arc at the top, which seems to relax the wrist a bit.

Keyboard presses are harder than they should be, though not as hard as on the Key Tronic or Labtec boards, and the depth of press is a little shallow, though not as shallow as on a laptop. Additionally, this is the only USB keyboard I found. It was great to type on but less useful for gaming. The raised top of the function keys makes it easy to slide off and press an adjacent function key—a real nuisance for gamers.

Is There a Winner?

Fry's merchandise was exhausted, and I hadn't found the perfect cheapo keyboard, so I swung back to Central Computer—and found the full-featured Logitech Media Keyboard (\$19.95), all of four cents cheaper than Microsoft's Comfort Curve. Keystrokes are pleasantly light, and the keyboard offers good tactile feedback, although it's a tad mushy. Media and Internet buttons work without any need to install a custom driver. I thought the rounded function keys would be distracting during gaming, but this fear proved baseless. The spacing between the buttons meant no incorrect presses, and extended game sessions weren't overly taxing to my tired hands.

Logitech supplies a full version of their SetPoint keyboard driver and utility software with the keyboard, allowing you to customize the buttons easily. Setup will happily install extraneous stuff, like eBay links and Musicmatch, so be sure you uncheck those if you don't want them. This is a pleasant keyboard for both typing and gaming, with some additional amenities. Then again, if you're mostly typing, the Microsoft Comfort Curve Keyboard 2000 is worth considering for its wrist relief.

Keyboards are very personal choices, of course, and your needs may differ. Consider the layout, the feel, and your application before choosing one that's right for you. There are some fine keyboards out there for less than \$20. All you need to do is a little shopping. □

» MORE ON THE WEB

Looking for a fancier keyboard? Or something with slightly more style? Go shopping at shop.pcmag.com.

YEPG Proudly Presents, Thx for Support

Maximum System Performance

Getting To The Bottom Of Common Reliability Problems

As an IT Professional, you know the importance of maintaining system performance and reliability. If the desktops or servers crash, slow down or freeze, who gets called? That's right...you or your IT staff. This "break-fix" cycle leaves you little time to be proactive. And yet, many of these issues stem from a single, hidden source.

Reliability issues commonly traced to disk fragmentation.

The most common problems caused by file fragmentation are:

- **Crashes and system hangs/freezes**
- **Slow boot times and boot failures**
- **Slow back up times and aborted backup**
- **File corruption and data loss**
- **Errors in programs**
- **RAM use and cache issues**
- **Hard drive failures**

Having files stored contiguously on the hard drive is a key factor in keeping a system stable and performing at peak efficiency. The moment a file is broken into pieces and scattered across a drive, it opens the door to a host of reliability issues. Even a small amount of fragmentation in your most used files can lead to crashes, conflicts and errors.

(GET THE PROOF HERE:
www.diskeeper.com/paper)

The weak link in today's computers

The disk drive is by far the slowest of the three main components of your computer: CPU,

Top 5 reasons customers use Diskeeper

Performance and Reliability

83%

"Set It and Forget It" operation

83%

Much superior to built-in defragmenter

44%

Longer systems life with less maintenance

44%

Fast back-ups and antivirus and/or spyware scans

35%

From Diskeeper Customer Survey – Read the full survey at: www.diskeeper.com/survey

memory and disk. The fastest CPU in the world won't improve your system's performance if the drive is fragmented, because data from the disk simply can't be accessed quick enough.

Is Daily Defragmentation Needed in today's environment?

More than ever! Large disks, multimedia files, applications, operating systems, system updates, virus signatures – all dramatically increase the rate of fragmentation. If fragmentation is not addressed daily, system performance will suffer. Fragmentation increases the time to access files for all common system activities such as opening and closing Word documents, searching for emails, opening web pages and performing virus scans. To keep performance at peak, defragmentation must be done daily.

Advanced, automated defragmentation

Manually defragmenting every system every day is simply not

possible in even small networks let alone enterprise sites. IT Managers use Diskeeper's "Set It and Forget It"® operation for automatic network-wide defragmentation. Customers agree Diskeeper maintains the performance and reliability of their desktops and servers, even reducing maintenance and increasing hardware life.

"We run [Diskeeper] on our client PC's as well as our servers...with Diskeeper running daily, we can keep file performance at peak efficiency."

Tom Hill, CDR Global, Inc.

Every system on your network needs Diskeeper, the Number One Automatic Defragmenter™ with over 18 million licenses sold!

Diskeeper10

The Number One Automatic Defragmenter

Special Offer

Try Diskeeper 10 FREE for 45 days!

Download: www.diskeeper.com/pcm1m

(Note: Special 45-day trialware is only available at the above link)

Volume licensing and Government / Education discounts are available from your favorite reseller or call 800-829-6468 code 4353



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A Silent PC



BY LOYD CASE

When your gaming PC is as loud as a refrigerator, you know you've got trouble.

HIGH-PERFORMANCE PERSONAL COMPUTERS ARE THERMAL nightmares. As GPUs and CPUs have become more powerful, their heat output has skyrocketed. AMD's top-of-the-line Athlon 64 X2 4800+ is rated at 105W, while Intel's Pentium D 840 runs even higher, at 130W—as Paris Hilton would say, that's hot. The typical way to dissipate all that heat? Throw extra cooling at the system—in other words, add more fans. Pretty soon, you've got more fans in your system than a B-36 bomber had propellers—and your system is as loud, too. You can't control the heat output (without moving to lower-performing components), but you can control the noise. Read on to find out how.

YyPG Proudly Presents, THX for Support

Making a Quiet Case Quieter

Fix Fans To nullify your noise problems, first identify the loudest component in your system—then do something about it. If fan noise is a problem, place a finger on the center of each fan to halt it and listen for the noise drop. A quick pause in any one fan won't cause the hardware under it to overheat, but it will let you find out which one is making the biggest racket.

Replace a Case Fan If one of your case fans is too noisy (and it probably is), buy a new one. Held in by just four screws and two wires, case fans are easy to replace, and the new ones are very cheap and noticeably quieter. We like Antec's popular SmartCool fans: They have internal temperature sensors, which let them adjust their speed second by second to suit your PC's cooling needs. SmartCool fans don't require the generic three-prong motherboard connectors that your current fans probably have; they use standard Molex connectors for power. Their temperature-sensing technology is internal and operates independently of the computer system. Each fan costs around \$18.



Buying precut foam is easier than making your own

Silent and deadly We went with the Antec Sonata II because it looks good—and because we could get an aftermarket noise reduction kit. Inside, foam bits adhere to the case's panels.

THESE ARE A HANDFUL OF SMALL COMPANIES that will “pre-mod” a case for you, adding noise-reducing panels, extra-quiet fans, fan-speed controllers, and even vibration-reducing grommets. The well-respected pre-modder mnpctech produces a customized Thermal-take Tsunami that does a respectable job (we should know, having spent considerable time with one). But we wanted to do it ourselves, using a case we liked a little better. The Tsunami is a decent case, but we're not really into its heavy, full-length swinging door. Besides, the Tsunami out of the box isn't really designed for low noise.

We chose an old standby, the Antec Sonata II. It's an attractive case and has room for expansion. This case also has a sturdy but relatively accessible interior, so it's fairly easy to work on. (A large cool-

ing duct that vents air from the CPU cooler out of the case gets in the way, but that part is easy to remove.) Those are not the only reasons for choosing the Sonata II, however: the AcoustiPack precut noise reduction kit really won us over. You can buy noise reduction plastic or foam materials, of course, and you can cut them yourself for any PC case. But anyone who's tried to cut a straight line through a piece of foam with a craft knife or Dremel will understand the appeal of a precut kit. You can find it at www.acoustiproductions.com.

The AcoustiPack foam is a semi-open-cell material that can absorb sound. It's backed by a high-density layer of plastic that attenuates whatever audio energy makes it past the foam. This plastic is also the backing material for the adhesive layer, which attaches the foam to the case. The kit comes with 18 precut pieces.

SILENCE THE CASE



1 Expose adhesive The AcoustiPack kit has to be installed in a certain order. The thin manual is surprisingly complete, but it takes deciphering; the key is to follow the directions, but take extra care. All the pieces are sticky on one side, with a thin layer of plastic backing you have to peel off.



2 Wedge in the foam In some cases, you need to slide the foam—with the adhesive exposed—into crevices. Orient the case so gravity pulls on the nonadhesive side. The good news: If you make a mistake, the foam pulls up fairly easily, and it's tough enough not to tear.



3 Remove the bezel For a complete job, remove the front bezel. The left-side panel can't be removed, so carefully lever the bezel out by wiggling it back and forth—just be careful getting the plastic tabs out of their holes, or you'll break them.



4 Reduce noise leaks Carefully remove the cabling from the interior of the case. You'll need to remove four screws to detach the lower half of the front bezel. Once that's done, you can install the foam that's specially cut for it. The precut sections should adhere easily.

YyPG Proudly Presents, Thx for Support

Power Supply and Motherboard

WE WANTED A FAIRLY POTENT POWER supply, on the off chance that we might someday want to install two graphics cards in the system. We're not big fans of the two systems out there, CrossFire and SLI—the gain isn't always worth the configuration pain. But if the right game comes along. . . . So we ripped out the included 450W unit and sought something else.

Not all power supplies are created equal, of course, as we discovered in recent power supply testing (see go.extremetech.com/powersupplies). One model that impressed us with its efficiency and relatively low noise is the 600W Seasonic S12. Rated at better than 80 percent efficiency (meaning it wastes little power and generates less unnecessary heat),

the S12 is one of the quieter high-performance power supplies available. It even has two PCIe six-pin graphics card power connectors, and it passed our CrossFire and SLI tests with aplomb.

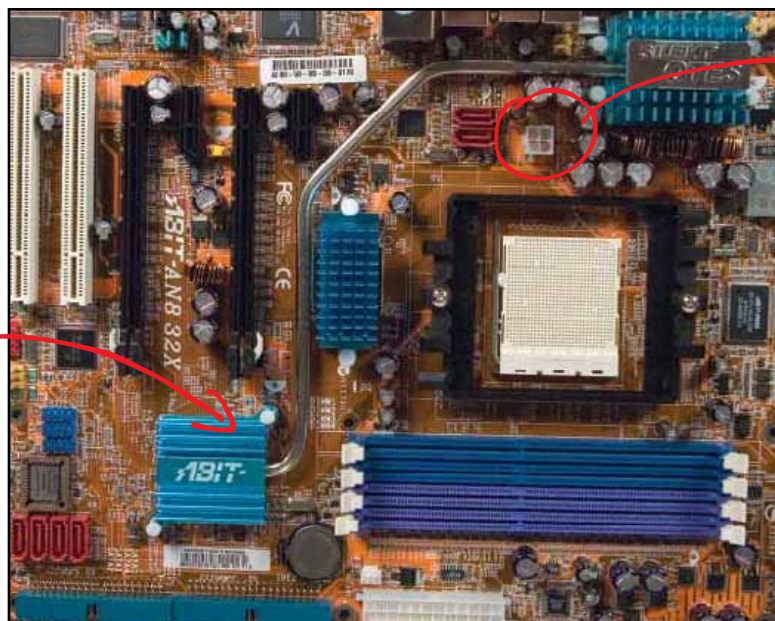
We wanted a leading-edge motherboard, and the spanking-new ABIT AN8 32X motherboard seemed just the ticket. The key is the passively cooled chipset, called Silent OTES (short for outside thermal exhaust system, of course). ABIT uses a combination of passive heat sinks and a heat pipe to direct the chipset's heat to the rear of the chassis, where it's exhausted out of the case. That removes a substantial source of annoying noise: the northbridge fan. Two gigabytes of Corsair's TwinX2048-4000PT memory and an AMD Athlon 64 FX-57 processor rounded out the system.

Drive Noise Out

For many systems, it's easy to identify the loudest part, even from clear across the room: an ancient (or, as we like to say, classic) hard drive. Molex makes a product called SilentDrive, basically a foam-lined sleeve that swallows most standard-size IDE and SCSI drives (recommended for 5,400-rpm drives only) while still allowing them to function normally. It'll silence the high-pitched whine of a noisy hard drive.

Mother of all boards

The ABIT AN8 32X supports the nVidia SLI X16 chipset, with a full 16 lanes of PCI Express to each channel. That's a lot of graphics goodness.



Don't forget the CPU's separate 12V power cable!

Add a Drive There's a second solution for loud hard disks: Buy a new one. We bet you can find a faster, larger, quieter drive for under a hundred dollars. Use Norton Ghost or a similar tool to replicate the old drive's partition onto the new drive, set aside the old one, and it's business as usual. You've got a backup as well! Samsung's SpinPoint line is popular for its quiet operation.



5 Foam the side door Install the foam in other parts of the case, including the side door. Note the thin strip just below the latch. Remove it so the Sonata's support bar has room. The lowest rectangle stays in place on the Sonata II (it needs to be removed for the older Sonata I).



6 Open the air duct The Sonata II ships with a removable plastic duct that directs airflow from the CPU out the back of the case. The AcoustiPack kit comes with pre-cut foam sections for the duct, but you'll need to disassemble the duct. First, take the cooling duct apart.



7 Add foam to it Then install the AcoustiPack foam and reassemble the duct. When you're done, it will look mostly the same but should run substantially quieter. Grab your reassembled duct and your screwdriver and mount the duct back into the Sonata case.



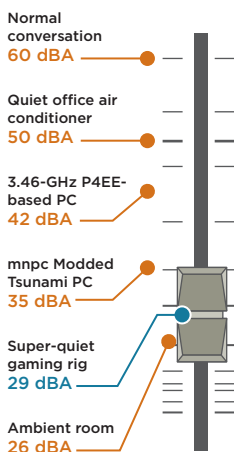
8 Quiet your drives Shove a couple of foam blocks around the hard drive area. Acousti recommends not using these blocks if you plan on having more than two drives. The foam is an additional sound-absorbing layer, but it also traps heat, which could shorten your drives' lifespans.

YYePG Proudly Presents, Thx for Support

CPU Cooler and Graphics

Volume Control

How loud is our super-quiet gaming rig? To find out, we picked up a sound meter and compared our new computer with a few others in the office. We include a few reference points to set your bearings.



Go Totally Passive

For the ultimate in silence, look to a fanless case, which builds a line of heat pipes distributed throughout. They're a bit limiting: Building an overclocked, 7800GTX SLI system is impractical, for example. Still, you can build a pretty decent system using one of these cases. The downside is that they're enormously heavy and extremely expensive.



Bigger and Slower

As cooling fans get bigger, they can turn more slowly and still move the same amount of air.

THE CPU COOLER IS A KEY COMPONENT in reducing noise. And remember, we didn't want to sacrifice performance to cut down on noise. Since we used normal-profile DDR memory (unlike the brightly lit but extra-tall Corsair XMS Pro), and since the motherboard doesn't have any tall heat sinks or other obstructions, we could use a big cooler. So in went a Zalman CNPS7700-AICu cooler. This giant hunk of metal has a copper core and a mixture of aluminum and copper fins. More important, it uses a slow-rotating 120mm fan, which keeps the CPU cool while generating little noise. Tall coolers, like the Zalman CNPS9500, are quite popular, but we couldn't fit one in because of the presence of the case's cooling duct.

If we were striving for a purely silent system, then we might have hunted for a fairly high-performance, passively cooled graphics card. After all, both ATI and nVidia have spent quite a few dollars engineering fairly low-noise cooling solutions. The fans on ATI's graphics cards tend to spin at full speed until the driver kicks in, however, which can be a little annoying. So we went with an nVidia-based card and put a lone EVGA e-GeForce 7900 GTX into the system. It uses a 92mm cooling fan and exhausts air out the back of the case. The result is a surprisingly quiet graphics solution.

BUILD THE COMPUTER



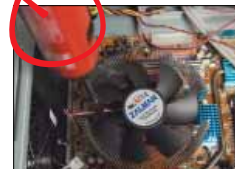
1 Start with the power
For the most part, assemble the rest of the system as you would any home-brew computer. But do things in the right order. Install the power supply first. Otherwise, you may have to pull the motherboard out of the PC just to install the power supply.



2 Affix the back plate
Make sure you attach the special back plate required by the Zalman cooler before you screw the motherboard down permanently into the case. The small nipples on either side of the processor above are for the Zalman CNPS7700-AICu CPU cooler.



3 Lock in the memory
Route the wires from the reattached front bezel next, and then attach the SATA and drive power cables before you slip the drives into their bays. Install the memory before the Zalman heat sink, since the modules will live under the heat sink fins.



4 Finally, the cooler
Two screws attach the Zalman cooler to the nut that holds the plate to the motherboard. Install the fan sensor control and set it for minimum speed. The Sonata II ships with a three-speed 12cm rear case fan. Set that to the minimum speed as well.

We use a Milwaukee power screwdriver all the time

YYePG Proudly Presents, Thx for Support

Before and After

Parts List

Case

Antec Sonata II\$100

Power supply

Seasonic S12-600W.....\$155

CPU

Athlon 64 FX-57.....\$811

Memory

Corsair TwinX2048-4000PT.....\$217

Motherboard

ABIT AN8 32X.....\$185

CPU cooler

Zalman CNPS 7700-AICu.....\$35

Hard drive

Western Digital WD4000YR.....\$185

DVD drive

Pioneer DVR-108B.....\$69

Graphics card

EVGA e-GeForce 7900 GTX 512MB.....\$520

Sound card

Creative Sound Blaster Audigy 2 ZS\$72

Sound insulator

AcoustiPack Pre-Cut Sonata Kit.....\$69

Total.....\$2,418

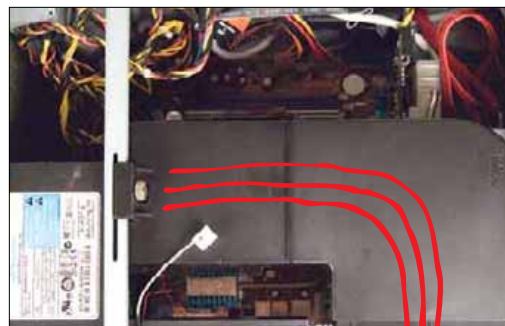


BD (before duct) All the hardware is in. We just have to add the cooling duct and button it up.

SPEND A LITTLE TIME ROUTING CABLES inside the case. The large, exposed fan on the Zalman CPU cooler means you need to make sure no stray wires fall into the fan blades. And don't forget to reinstall the CPU duct. Here's what it all looked like, before and after installing the CPU duct.

But we know what you're waiting to hear: Just how quiet was this rig? Overall, the system was eerily quiet—this in a quiet office with nothing else running. It measured 29 decibels (dBA), quieter than most systems and much quieter than the average gaming PC *cum* jumbo jet. At 1 meter from the front, you had to strain to hear the system run, even at full bore. (By the way, our system scored 5,206 on 3DMark 2006. That's not bad for a system you can't hear.)

Pricewise, our PC's not too expensive—at least not for a bleeding-edge gaming system. Note that the AcoustiPack kit costs only about \$69; you can



After: Case closed We've reinstalled the air duct, now packed with sound-absorbing foam.

Air-flow

find dealers at www.acoustiproductions.com. The heat sink adds another \$35, and the power supply isn't cheap, either. But you're still paying way less than \$2,500 for a very quiet PC.

Of course, you can use this approach with any PC you build. All you really need is the Antec Sonata II and the AcoustiPack insulation kit. Even if you don't go with a higher-performance power supply, the Antec 450W unit supplied with the case is pretty quiet. And the AcoustiPack kit provides substantial noise reduction, even with fairly stock CPU coolers. If you want to use another case, AcoustiPack offers sheets of sound-deadening material that you can buy, but you'll have to do the cutting yourself. And as we've seen, some of the pieces can have fairly eccentric shapes.

So go ahead, build a quiet high-performance PC. Your ears and your housemates will thank you. □

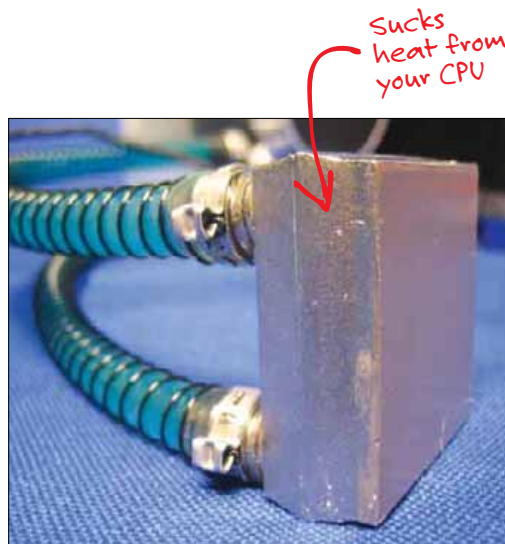
» MORE ON THE WEB

Learn everything you ever wanted to know about power supply testing (but couldn't frame into a sentence) at our sister site: go.extremetech.com/powersupplies

AN ALTERNATE SILENCER For decades, the Peltier effect has served humanity well. Fulfilling a humble but indispensable service inside mankind's second most important box (the ice chest), the Peltier cooler has kept countless gallons of beer, soda, and potato salad frosty and refreshing. It works thanks to the miracle of thermodynamics: When a current passes through dissimilar metals connected at two junctions, heat also transfers between the two points, cooling one area and heating another.

The much more common liquid cooling system found in car radiators has issues. Most have reservoirs that require filling and use hand-cut and mounted plastic tubing—points of failure that can result in catastrophic leaks. Enter CoolIT Systems' Freezone CPU Cooler, the love child of Peltier and liquid cooling. It employs a water block to transfer heat to a stack of six Peltier coolers. At stock speeds, idle temperatures seesawed from 16° C to 21° C, and this system was real, real quiet. Spending a small fortune on this cooler is a decision you should make with your financial adviser (it retails for \$399.99). But you'd blow that money on beer anyway.—Victor Loh, analyst, *ExtremeTech*

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The radiator The water block, which CoolIT calls the Fluid Heat Exchanger (FHE), comes with a layer of thermal paste from the factory.

CONNECTED TRAVELER

SAN FRANCISCO



BEST WIRED HOTELS

Hotel Nikko San Francisco

222 Mason St.
www.hotelnikkosf.com

All 510 rooms and 22 suites include high-speed Internet, two-line speaker-phones, bathroom phone, fax machine, and CD player. There's even an e-fridge that notifies the front desk the moment you grab a beer, so there's always another waiting for you the next morning.

Hotel Triton

342 Grant Ave.
www.hoteltriton.com

This whimsical eco-conscious hotel is so San Francisco. Located just off Union Square, this unique and fun hotel features celebrity suites designed by Jerry Garcia and Santana. The rooms also feature iPod docking stations, LCD flat-panel televisions, Wi-Fi and wired broadband, and in-room laptop safes.

Hotel Diva

440 Geary St.
www.hoteldiva.com

This ultramodern boutique hotel has a sleek stainless steel decor and free wireless throughout the entire hotel. It's adjacent to a Starbucks and right across the street from two movie theaters. They even rent iPods to hotel guests.

WORLD'S BIGGEST HOT SPOT In 2004, San Francisco Mayor Gavin Newsom announced plans to blanket the entire city with free Wi-Fi Internet access. That's right: Three hundred kilobits per second, from one end of San Francisco to the other. And you won't have to pay a penny to log on. Last October, Google made headlines when it took up the mayor's challenge, and the company's joint bid with EarthLink is one of six under consideration. IBM and Cisco are also in the mix, but our money's on Larry, Sergey, and the rest of the crew from Mountain View. Expect work to start sometime this year.

TOP TECH ATTRACTIONS

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Where we go for all things geek in a pinch.

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101 4th St.
A new high-tech playpen with an Imax theater, a Sony Style Store, a high-tech arcade, great restaurants, and a Jillian's pool hall.

The Exploratorium

3601 Lyon St.
Offers high-tech exhibits.

Cable Car Museum.

1201 Mason St.
If you're in the mood for some old-school 19th-century technology.



FREE WI-FI HOT SPOTS

Maxfield's House of Caffeine

398 Dolores St.
Two doors down from Mission Dolores, where Jimmy Stewart stalked Kim Novak in Hitchcock's famous flick *Vertigo*.

Maggie Mudd

903 Cortland Ave.
Not only can you get lactose-free vegan ice cream, you can get lactose-free vegan wireless. You'll have to pay for the ice cream. But not the wireless.

Rockin' Java

1821 Haight St.
The place to find geeky Deadheads in the Haight. The wireless is free, and the coffee's organic.

FAST FACTS Google and local start-up Feeva already offer free Wi-Fi access in Union Square, San Francisco's Tourist Central. After a trip to Saks and a theater matinee, you can sit down at the Dewey Monument and log on to PCMag.com • Sure, the Giants are at AT&T Park in San Francisco (which also doubles as an enormous hot spot). But if you wanna watch major league baseball at a park named for an antiviral company, take the short BART ride to McAfee Coliseum, home of the Oakland A's and Moneyball.

WHILE YOU'RE IN TOWN Forget the tourist traps. Coit Tower, Chinatown, and the Wharf are all well and good, but if you want something out of the ordinary, we've got two recommendations. First, head over to the Mission and grab lunch at La Taqueria (2889 Mission St.)—the best tacos, burritos, and quesadillas north of the border. And that might be an understatement. We recommend the carnitas burrito with guacamole. Then head across town to the Castro Theatre (www.castrotheatre.com), one of the country's great old-time movie houses. Get there well before the show: They still play the organ before the curtain goes up.

YEPG Proudly Presents, Thx for Support

Password Policies

A simple password could be the weak link that leaves your data open to attack.

SMART GUIDELINES

1 Create strong passwords. Use multiple words, mixed-case alphanumeric, and at least 12 characters to secure your passwords. Change your company policies to increase minimum password character length to at least 12 characters.

2 Use a different password for each system. If a mailing list gets hacked, you don't want your bank account put in jeopardy. Use different passwords to protect all critical accounts, such as company e-mail and online banking.

3 Use a password vault to store your digital keys. Find a trustworthy browser password manager, such as those built into Firefox, Safari, and Internet Explorer.

4 If a service offers a second form of authentication, use it. Some banks offer several forms of authentication, such as number generators and smart cards. If your bank doesn't offer them, consider switching.

BY ROBERT LEMOS

PASSWORDS ARE QUICKLY BECOMING passé. For years, security experts have warned that our reliance on passwords leaves valuable data unprotected. Last year, federal banking regulators approved guidelines urging the adoption of other forms of authentication for online banking, such as number generators or smart cards. In February, Bill Gates told attendees at a computer-security industry conference that "Password systems simply won't cut it." But switching to a more secure way of doing business will require time, and until then, users are left with password security.

The problem is that people are not good at remembering secure passwords, such as a series of random numbers, letters, and punctuation marks. A random eight-character password of only lowercase letters and numbers can be cracked within days by generating all possible combinations of the character set. Dictionary words that have some characters replaced with similar-looking numbers can be broken faster.

Faster processors and improved attack tools are shrinking the time needed to attack passwords every year. For example, John the Ripper, a popular brute-force password-cracking tool, can now crunch more than one million password possibilities a second, compared with only a few hundred a second a decade ago.

Cheap memory is also a catalyst for password cracking. A technique known as rainbow tables precal-

culates a large percentage of all possible passwords and creates multigigabyte lookup tables that can reduce the time needed to find most passwords to seconds.

Such techniques are particularly dangerous because an attacker can use the password on a single computer to find the password of every user, including the administrator, who did not use a password with more than eight random letters and numbers. Because most IT administrators use the same passwords on many systems, the compromise of one user's computer can result in a breach of the entire company's network.

The immediate solution to password security problems is educating users to generate better passwords and giving them the tools to manage their digital keys. Most browsers have password managers. Standalone apps are also available, and many Web sites, such as Diceware.com, have online forms and strategies for generating secure passwords. For Mac users, Apple has a system for generating passwords built into Mac OS X. In the future, digital wallets for managing passwords and credentials will be built into every OS. For example, Microsoft's InfoCard utility will be added to Vista.

The best solution is not to rely solely on passwords. Companies should add a second method of authentication, and consumers should seek financial services that offer such security. □

Robert Lemos is a freelance technology journalist and the editor-at-large for SecurityFocus.

WHEN WORDS FAIL

Dictionary words or letter-number combinations make passwords that are easy to crack, but passphrases generated by advanced methods such as Diceware are virtually uncrackable.

Password strength (In bits of entropy). Higher numbers are better.



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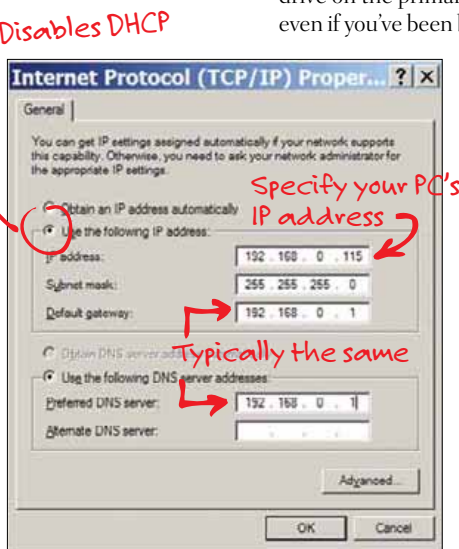
SATA AND PATA HARD DRIVES

Q *I am adding a SATA hard drive to a computer with an existing parallel ATA hard drive. Do I leave the PATA hard drive on IDE 0, or should I actually remove the PATA drive and use the SATA drive exclusively?* —Robert Cammack

» **NEED ANSWERS?**
ExtremeTech.com's editor, Loyd Case, tackles your toughest hardware problems each issue. Send him yours at askloyd@ziffdavis.com.

A You can use a SATA drive alongside an existing parallel ATA (PATA, often referred to as IDE) drive. This is a good option if the PATA drive is still worth using. If it's an older drive with a small capacity (by today's standards), it may be best to remove it, but I've successfully run large PATA and SATA drives simultaneously. One system was configured to boot from a single PATA drive, and it had two SATA drives configured as a RAID 1 array for the secondary drive. Microsoft Windows booted from the PATA drive, but critical data was stored on the SATA RAID 1 array.

You can set up the system to boot off either drive. If you add a PATA drive to a system with an existing SATA boot drive, you may need to go into the system BIOS and reconfigure the SATA drive as the primary boot drive. Many PCs will assume that a new PATA master drive on the primary IDE controller is the boot drive, even if you've been booting from a SATA drive.



A DISCONNECTING WIRELESS NETWORK

Q *I have a combination wireless/wired network at home. One PC is connected to a Linksys Wireless 802.11b router's built-in Ethernet switch. The other PC is connected wirelessly via a Linksys WMP11 card. When the wireless PC goes to sleep, or even just goes to the screen saver, the wireless network disconnects. I lose e-mail and Web connectivity, though when I wake up the PC, the tray icon tells me I have an excellent connection. I've tried updating the router firmware, and I've disabled the hardwired Ethernet port on the Asus P4P800 motherboard, but that doesn't help. I always have to perform a "repair" on the wireless card.* —Andy Craig

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A Despite all the work on ACPI and other power-management technologies, power management for desktop systems still tends to trail the abilities of laptop computers in this area.

In standard home router setups, the PC automatically picks up an IP address from the router through a mechanism called DHCP (dynamic host configuration protocol). The router maintains a pool of IP addresses. When a system disconnects, it needs to issue a DHCP request to obtain a new IP address. When you use the "repair" function, the system re-establishes a connection to the router and requests a new IP address.

What you might try to do is to allocate the IP address permanently from the PC. You need to do this in the Internet Protocol control panel, which is reachable from the Network control panel.

INTEL VS. AMD

Q *After reading the article on building a PC (go.pcmag.com/buildyourownpc; March 7, page 97), I was curious as to why one would choose one processor over another. It would appear that AMD has faster, more advanced, and less expensive chips than Intel does. What are the advantages and disadvantages of one chip over another?* —Mark

A You ask a question that's been argued for years on Internet chat rooms and Web sites. Each processor has different strengths and weaknesses. For example, an Intel Pentium 4 will often perform software rendering on 3ds Max much faster than an AMD Athlon 64 will. On the other hand, the AMD CPUs generally beat Intel's at PC games.

Recently, since dual-core processors became common, AMD dual-core processors have tended to outpace their Intel equivalents, and the Intel CPUs also run very hot. It looks as if this will probably change as soon as Intel shifts to its new architecture later this year. But for now, AMD's dual-core CPUs tend to be a bit faster and put out less heat than Intel's, and they cost about the same.

It's not just the CPU that comes into play. For example, you may require a flexible, high-performance disk subsystem. In that case, Intel chipsets often outperform the chipsets used on AMD-compatible motherboards. But if you want to run dual graphics cards for gaming, an AMD is better.

In the end, the average office computer user may not be faced with these issues. The raw performance of the CPU isn't as important as the overall responsiveness of the system, which often depends on the memory, hard drive, and other factors. □



ASK NETL

BLINKING LABELS IN ACCESS

Q *In older versions of Access you could set the text/field on a form to Blink, but I cannot seem to find anything on how to do it now in 2000 or 2003. I'd like to draw attention to a field by having it blink. Do you have any suggestions as to how to do this?*—Michael Mattingly

» NEED ANSWERS?

Each issue, *PC Magazine's* software expert Neil J. Rubenking answers your toughest software and Internet problems. Send yours to askneil@ziffdavis.com.

To create a blinking label in modern versions of Access, you need to write a snippet of Visual Basic code.

A You may be thinking of much older versions of Access, predating Windows. On a text-only system it was possible to set an attribute that would cause one or more characters to blink. That's no longer a possibility. If you want a blinking label, you need to write a tiny bit of VBA code. Start by opening the form in design view. Right-click the label that should blink and choose *Properties*. Click the *All* tab in the Properties dialog and change the label's *Name* property to *blinkingLabel*. Check to make sure that the *ForeColor* property's value is -2147483630, a code representing the default window text color.

At the top of the Properties dialog, select *Form* in the drop-down list: Now you're editing the properties for the form itself. Click the *Event* tab and scroll down to the item titled *Timer Interval*. Here you'll enter the blink rate in milliseconds: 500 (one half-second) is a good choice. Now comes that tiny bit of VBA code. Click the box titled *On Timer*. A small ellipsis (...) but-

ton will appear at the right; click it and choose *Code Builder*. The lines "Private Sub Form_Timer()" and "End Sub" will appear in the Microsoft Visual Basic window. Between them add these lines:

```
With blinkingLabel
    .ForeColor = (IIf(.ForeColor =
        -2147483640, _ -2147483633, -2147483640))
End With
```

Press Alt+Q to save and quit the VB editor, then select *View | Form View* from the menu. Your label will blink on and off, alternating between its original color and the default background color for forms.

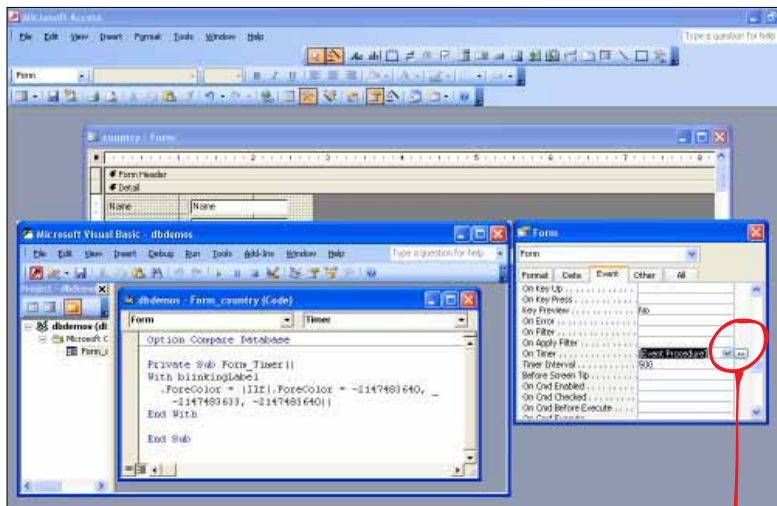
MORE ON XP'S FOLDER AMNESIA

Q *I ran across your article "A Solution for Windows XP Folder Amnesia" (go pcmag.com/folderamnesia) and I think it needs to be updated. The locations of BagMRU and other subkeys have changed. The current locations in Microsoft Windows XP SP2 are HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Shell and HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\ShellNoRoam. The article does not mention these locations; it omits the Current-Version part of the locations.*

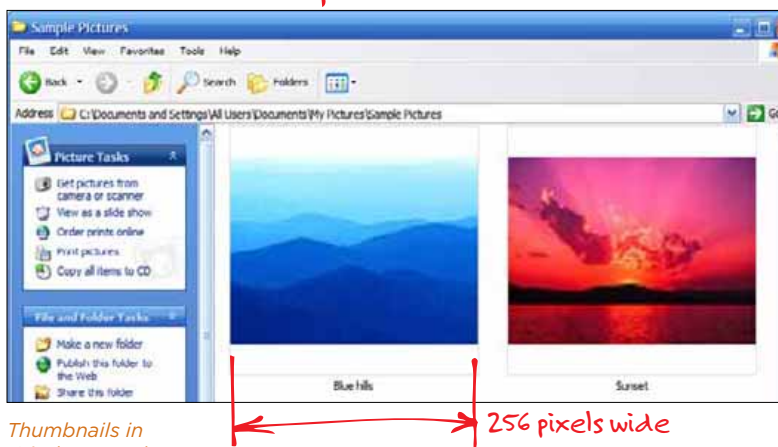
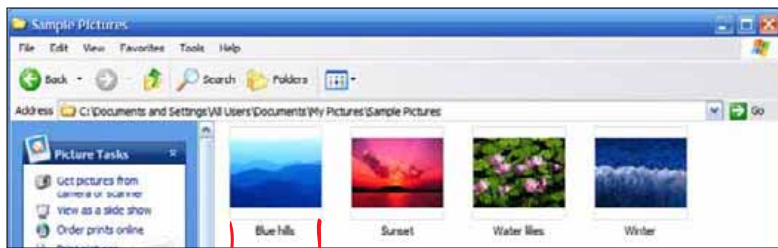
I applied the fix successfully using a value of 5,000 for BagMRU Size around the time you wrote the article, and since then have had no problems.—Geoff Walker

A As explained in the earlier article, Windows XP is supposed to remember your desired view settings on a per-folder basis, but a glitch can make it stop recording this information. The article offered a Registry tweak that can sometimes cure this problem. It spelled out changes in the Registry keys HKEY_CURRENT_USER\Software\Microsoft\Windows\Shell and HKEY_CURRENT_USER\Software\Microsoft\Windows\ShellNoRoam—specifically, it recommended deleting subkeys named *BagMRU* and *Bags* if they are present, and setting a larger number for the value named *BagMRU Size*.

The keys were clearly found as described on our test systems, and the Registry locations described in the earlier article can be verified in the Microsoft Knowledge Base article #812003 at support.microsoft.com/kb/812003/EN-US. Yet this reader was just as clearly successful using a different location. The main difference seems to be that our test systems had all



YyPG Proudly Presents, Thx for Support
Aaaas Code Builder



Thumbnails in Windows Explorer default to 96 pixels in their longest dimension, but you can set them as large as 256.

been upgraded to Windows XP SP2, but the reader's system had an original installation of SP2. We checked with Microsoft, but it didn't have any information about this difference.

If you attempt to apply the "folder amnesia" tip and find that the specified value and subkeys are not present in the Registry keys we specified, do take a look at the alternate locations listed above.

BIGGER THUMBNAILS IN WINDOWS XP

Q I have Windows XP SP2 loaded. Is it possible to increase the size of the thumbnail images in Windows Explorer's thumbnail view? I know that you can choose the filmstrip view to get a bigger preview of one image, but I want to see all the thumbnails larger. —David Senior

A The easiest way to do this is with Microsoft's free (and support-free) TweakUI utility. You can download it from www.microsoft.com/windowsxp/downloads/power toys/xppowertoy.aspx. Launch TweakUI, open the *Explorer* item in the tree at right, and click *Thumbnails*. Here you can adjust the thumbnail size from 32 to 256 pixels square (the default is 96). Do note that a 256 by 256 image has over seven times as many pixels as a 96 by 96 image. You may want to also slide the *Image Quality* slider to a lower setting, so you don't expend too much disk space caching those extra-large thumbnails. After you've made the change, you'll see larger thumbnails in both thumbnail view and filmstrip view.

For those who just have to get their hands dirty (you know who you are!), the size and quality settings are stored in the Registry key `HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer`, in DWORD values named `ThumbnailSize` and `ThumbnailQuality`. As always, if these values are absent, you'll create them. You can set `ThumbnailSize` from 32 to 256 (decimal) and `ThumbnailQuality` from 32 to 100. Changes won't take effect until you restart Windows, so it's really much easier to use TweakUI.

OPERA BROWSER IN DRAG

Q I recently noticed that the Opera browser offers the choice to identify itself as Opera, Internet Explorer, or Firefox. What does that mean? If I choose to identify Opera as IE, does it mean the Opera browser would be as vulnerable to attack as IE? —Xinxin Dai

A Every time your browser requests a page from a Web site, it includes several pieces of information, among them the browser type. That gives the site a chance to return a page specifically tuned for the browser in question, or at least to omit features not supported by the calling browser. However, Web designers don't always handle this information correctly. For example, they may assume that every non-IE browser is Netscape or suppress more features than necessary for non-IE browsers. In most cases you'll want to have Opera identify itself as IE (the default). This does not in any way open up your system to IE-specific vulnerabilities. All it does is lie to each and every Web site you visit, forcing them to give you the IE version of the requested Web page.

TURN OFF PERIPHERALS AT SHUTDOWN

Q Our computers are connected to power strips, so one switch turns everything off. We intend to switch it off every night, for reasons of energy efficiency and security. However, our new computer shuts down automatically without showing the "It is now safe to turn your computer off" screen, so we often forget to switch the power off. That leaves the monitor, printer, and various Ethernet and FireWire devices running and wasting energy. Is there a way to get the computer to display the old message at shutdown? —Allen Stanbury

A The old shutdown screen isn't going to come back—it's a thing of the past. You need a solution for the future. I checked with *PC Magazine* columnist Bill Machrone, who has written in the past about wasting power ("The Electron Leak," go.pcmag.com/electronleak). Bill suggests a modern power strip like the Smart Strip from BITS Ltd. (www.bitsltd.net). When the computer stops drawing power, the Smart Strip senses it and automatically shuts off power to the other devices. Another possibility is the

Port Authority Mini Power Minder, from Cables To Go (www.cablestogo.com). This one connects to the PC through a USB cable. It has one always-on outlet and another that turns on and off when the PC turns on and off—you'd plug your existing power strip into the latter. One of these products (or something similar) should solve your problem.

KEEPING U3 UNDER CONTROL

Q Several companies now make U3-enabled USB flash drives that let you carry applications with you and use them on any computer without installing them and without leaving any traces (see go.pcmag.com/u3usb). The key is formatted into a read-only portion containing the apps and a read-write portion for your data. When you plug it in, Windows sees the read-only portion as a CD drive and launches the U3 software automatically. Yet sometimes you just want your key to be a USB drive. You may want to transfer a file without waiting for the U3 launcher and applications to load. Or the apps may conflict with the host system, which can make it impossible to properly eject the key. Some people have probably

bought U3 drives inadvertently when all they wanted was a normal USB key. How can we help readers disable AutoPlay when they don't want these capabilities? —Ben Z. Gottesman

A You can suppress the U3 drive's AutoPlay functionality on a one-time basis by holding down the Shift key while inserting the drive. Wait for the audible indication that Windows has recognized the drive before letting go. You can now use the drive simply as a storage device. You can still access the U3 features on demand by right-clicking on the drive letter representing the read-only portion of the key and choosing AutoPlay.

To suppress automatic launching permanently on your own PCs, insert the drive and wait for it to initialize. Right-click My Computer on the desktop and choose *Properties*. Click the *Hardware* tab and click the *Device Manager* button. Double-click the entry for DVD/CD-ROM drives, right click the line representing the U3 drive, and choose *Disable*. Now when you insert the key, only the flash drive portion should be recognized. The downside to this approach is that the U3 features aren't available on these PCs until you reverse these steps. □

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Your Site's Stats

Web-site analytics can help you know who is visiting your site and how to capitalize on that knowledge.

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Search engine optimization, pay-per-click ROI. \$179 per month.

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AdWord ROI. Free.

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Highly customizable and flexible reporting. \$34.95 per month.

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Real-time data, intuitive reporting. \$14.95 per month.

WebSTAT 3.2 Premium

www.nextstat.com
More than 40 reports available. \$14.95 per month.

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Conversion analysis. \$35 per month.



BY MATTHEW D. SARREL

NOW THAT YOU HAVE A WEB SITE, IT'S time to learn how to analyze the traffic that your visitors generate. By understanding a few simple metrics, you'll learn a lot about how your site is structured, how it functions, and the products and information that you offer. It's important to know whether your Web site is boosting your bottom line by bringing in new customers and visitors and retaining loyal ones.

A company with a content-heavy Web site that relies on ad revenue should focus on how many people visit and how many pages each visitor views. Those with an e-commerce site will want to know which products visitors view and how far along each customer advances in the purchasing process. In many cases, you can combine the two metrics. A good content strategy results in higher sales, and a successful sales experience encourages visitors to spend more time at your site.

For a content site looking to optimize navigation, improve layout and design, and enhance content in order to retain visitors, the right tool should measure unique visitors, page views, navigation paths, and the amount of time spent on the site. Then you can develop more targeted content for your customers. Analyzing reports that measure the clickstream (the record of a user's activity on the Internet) patterns can help you reorganize your site so readers can find information quickly.

The essence of Web metrics for an e-commerce site is determining how effective the site is at converting visits into sales. Here are some questions a good e-commerce metrics tool should answer: How effective are e-mail marketing campaigns? What percentage of site visitors buy something? Are visitors abandoning their shopping carts, and if so, at which point? How much of the business consists of repeat customers? Is it easy for customers to find what they're looking for?

By measuring page hits, you can identify popular items in your Web store and feature them prominently on your home page. And following clickstreams can tell you where customers are dropping out.

For both kinds of sites, you'll want to know *referring addresses*, or how visitors are

finding your site. Knowing this can help you identify who links to your site and why, so you can approach similar sites and offer to trade links. Keywords are another important source. By knowing which keywords people use to find your site, you can increase your rankings on search engines, a process known as *search engine optimization*. Your top keywords are also good Google AdWords to purchase to advertise on the Web.

Who should you choose to provide the right solution? One basic tool is Google Analytics. Free for AdWords customers, Google Analytics provides basic Web analytics. Ideal for pay-per-click advertisers, it provides excellent keyword reporting and AdWords return-on-investment reports, which advertisers can then use to tweak their ad campaigns. The service also includes executive summaries for traffic, e-commerce and conversion trends, and powerful trend-reporting features to help you understand how site traffic varies over time.

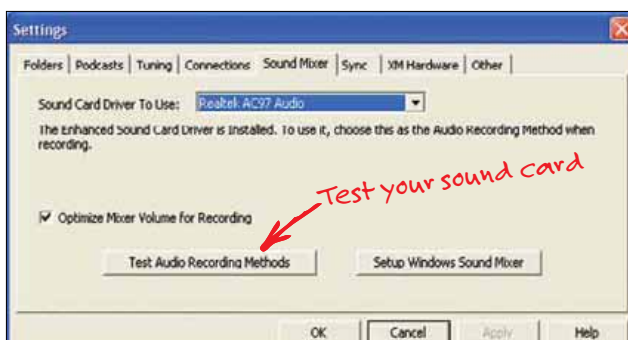
For a more robust solution, VisiStat 3.0 provides in-depth site-traffic analytics. Real-time stats are an addictive way to get quick data about who is browsing your site and which pages they're viewing. You can get geographic or ISP reports, referral links, and keyword tracking. Add-ons such as PageAlarm, a site-availability monitoring tool, and AdCam, an advertising-campaign tracker, can contribute significant functionality. □

Matthew D. Sarrel is a consultant and former PC Magazine Labs technical director.

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1. GET REPLAY A/V

First, download Replay A/V from www.applian.com. To get the demo, click on Products, then scroll down to Replay A/V, then choose Free Demo. The demo lets you save three streams up to 15 minutes or 5MB each.

**2. CONFIGURE THE PROGRAM**

Before you start, we recommend downloading the Enhanced Sound Card Driver, available at www.applian.com/downloads.php. Then, start Replay A/V and follow the prompts to choose where you want your file saved and to test your sound card with the new driver.

**3. CHOOSE A STREAM**

Next, click on the Media Guide icon. To record a TV station stream, click the TV icon. Find stations fast by clicking Languages, then English. Find the show you want and click Add. Click Record Now, then OK.

Capture Streaming Video

BY JOHN BRANDON

WEB VIDEO AND AUDIO STREAMS ARE A LITTLE RESTRICTIVE, aren't they? We love streaming services like Real's Rhapsody and the live ABC News stream, but they don't let you save files and use them on an iPod, or burn media files onto a CD without paying. Sure, they'll let you transfer streams to a set of "approved" devices like the Creative Zen Vision:M. But you can watch only when and how they want you to.

You *could* get around these hurdles by recording streams to a home stereo or VHS, and then rerecording back to a PC. That's a convoluted process, though. Instead, try Replay A/V (\$49.90, www.applian.com), which records just about any Internet stream, letting you save unprotected audio or video files and use them any way you want. Recorded streams look super-clean at a high bit rate, although their window size is typically only about 320-by-240. To watch shows when you want, just browse the Replay A/V guide and click a few buttons to record and save your files. Or find a stream on the Web and do a quick record.

Now, we have to mention that, in some cases, this might violate the site's terms of use agreement. Although it's all for personal use—right?—you'll want to check and comply with copyright restrictions, and I certainly don't recommend sharing Replay A/V-recorded files, which could get you in a boatload of trouble. □

John Brandon is a freelance writer based near Minneapolis.

**4. RECORD**

Replay A/V will record an unprotected stream as a 320-by-240 Windows Video file at about 177 Kbps. If there's a higher-quality download available, it will save that file instead. Then you can play it on an iPod or other media player or burn it to a disc.

PS3: What We Know



Details about Sony's PlayStation 3 console are finally arriving.

BY JAKE McNEILL AND SAM KENNEDY, 1UP.COM

» MORE ON THE WEB

Get the inside scoop on the gaming world, as well as all the news and reviews you can sink your teeth into, at www.1up.com.

IT'S EASY TO UNDERSTAND WHY GAMERS don't know what to make of the Sony PlayStation 3. Sony planned to release the next-generation console this spring but recently slipped its shipping date back to November. Meanwhile, many aspects of the PS3 remain a mystery. What will the system cost? How powerful will it be? Some of the answers still elude us, but little by little the picture is becoming clearer.

Sony seems to be promising the world with the PS3, and while not everything about the console has been finalized yet, many facts have been released. We know what hardware powers the system, which developers are making games for it, what types of disc formats it will read, and even what the controller is

like. What follows is a summary of everything we know about Sony's machine and our best guesses about what we can expect later this year.

Under the Hood

The driving force behind the PS3 will be the 3.2-GHz Cell processor, a multicore chip designed to handle several tasks simultaneously and to scale to meet the needs of its various duties. The graphics will be powered by an nVidia-designed 550-MHz RSX GPU, which nVidia claims will be more powerful than two GeForce 6800 Ultra video cards combined. In addition, the PS3 will have 256MB of main RAM combined with 256MB of VRAM. The console will support TVs running in 1080p progressive-scan mode,

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TOP10

MOST POPULAR XBOX 360 GAMES

and it will be able to run sound in Dolby 5.1, DTS, and PCM. It will also have a 2.5-inch detachable, upgradeable 60GB hard drive with Linux installed.

Blu-ray

Sony is using the PS3 to push the new Blu-ray disc format; it believes the unit will entice consumers to adopt in the same way that the PS2 encouraged adoption of DVDs. Ironically, copy-protection issues related to Blu-ray are also why Sony has moved the PS3's shipping date to November. The company believes Blu-ray will replace DVDs, which were also dogged by content-protection problems.

Though the Blu-ray drive is believed to contribute significantly to the PS3's cost, Sony sees the fast transfer rate and larger capacity (initially 50GB on dual-layer discs) as essential to the upcoming generation of games. The drive will also cater to older formats, playing PlayStation and PS2 games, DVD movies, and audio CDs.

Connectivity and Control

The PS3 will include gigabit Ethernet and 802.11b/g Wi-Fi (the same wireless technology the PSP uses), as well as Bluetooth 2.0. It will also have six USB 2.0 ports (four in front and two in back) and ports for Sony Memory Stick, SD, and CF cards. But it won't have ports for the old PlayStation 2 controllers and memory cards, so new PS3 accessories will be required. (It's only fair to say that older Microsoft Xbox controllers

and accessories don't work with the Xbox 360 either).

The PS3 controller—mockingly referred to as the “batarang” or “banana” by critics—will be a great departure from the DualShock-style controllers that have previously been Sony's standard, with a look that's like . . . well, like a “batarang”—a cross between a baseball bat and a boomerang—or a banana. The console will support up to seven of these standard controllers using its wireless Bluetooth connectivity. The other connection methods will also be used to interface with the PS3 in various ways, including the ability to interact with the PSP via Wi-Fi. Sony has also noted that the popular EyeToy device will work with the PS3, and it's actually used for a few announced titles.



GAMES ON DECK *Alan Wake, a psychological thriller from Remedy, is one of many PS3 titles in the works.*

Third-Party Support

Much like the original PlayStation and PlayStation 2, the PlayStation 3 will have strong third-party support, with most major publishers and developers already working on titles for the machine, including Activision, Atari, Capcom, EA, Konami, Midway, Namco, Rockstar, Sega, Square Enix, and Ubisoft. Almost a hundred Japanese publishers are producing titles. Suffice it to say that game companies seem

confident the PS3 will be just as successful as the PS2, if not more so. The system will be backward-compatible with the entire PS1 and PS2 libraries, and will play their titles in high definition.

Stay tuned for more news. The PS3 promises to be one of the biggest gaming attractions of the year. □

1 Tomb Raider: Legend Due April 28, it's far beyond “buzz” among gamers.

2 Viva Piñata What happens when you mix Pokémon with The Sims? Weirdness.

3 FFXI: Treasures of Aht Urhgan The next step for Final Fantasy. Due April 18.

4 Ghost Recon Advanced Warfighter The third game in this war shooter franchise.

5 Rumble Roses XX The vixens of wrestling are back.

6 The Elder Scrolls IV The fourth title in this best-selling fantasy series.

7 Dead Rising Third-person zombie-killing fest.

8 Far Cry Instincts Predator An enhanced version of the first-person shooter game.

9 Superman Returns Electronic Arts revives the Superman franchise.

10 Burnout Revenge The next generation of driving and racing games.

Source: 1Up.com. Ranked by online buzz

AUCTION BLOCK MOD WORLD



Jango Fett Water Maze
A rare Star Wars gaming relic.
eBay price: \$52.70



Mortal Kombat Goro statue Perfect for any mantle or bathroom.
eBay price: \$26

Xbox Air Moderator
Xbox to ice box with this plug-in cooler.
eBay price: \$4



Believe it or not, excluding the cost of the PC parts inside, the total price tag for this slick see-through case mod was \$22. Reader Frank Clark got a hold of a free promotional plastic case from E&J Brandy, then used drills, rivets, and a saw to mount everything from the drives to the Intel-based motherboard to blue LED lights. (The E&J logo is faintly visible on the side of the case.) “My mother-in-law has decided that it would be a great eBay item,” quips Clark.



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GEARLOG



Top view
(actual size)



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Read up on Edge Tech's
Digital Picture Frame and MP3
player at www.gearlog.com.

TECHNICOLOR TUNES

IF WHITE AND BLACK DIGITAL music players put you in too somber a mood, check out Toshiba's racy Gigabeat designs. The color-splashed MEP-05FR flash MP3 player costs \$99.99, includes 512MB of memory, and comes with several features not found in the iPod, including a voice recorder and a recordable FM tuner. Both Gigabeat models seen here have screen savers that can replace your watch, with readouts viewable in any of three modes. They have easy Windows Media Player 10 interfaces and are compatible with Napster To Go. You can also view photos on any of the Gigabeats.

The black MEP-10FK Gigabeat player offers 1GB capacity and goes for \$129.99. Our nod goes to the jazzy color designs, though. Music and monochrome just don't go together.

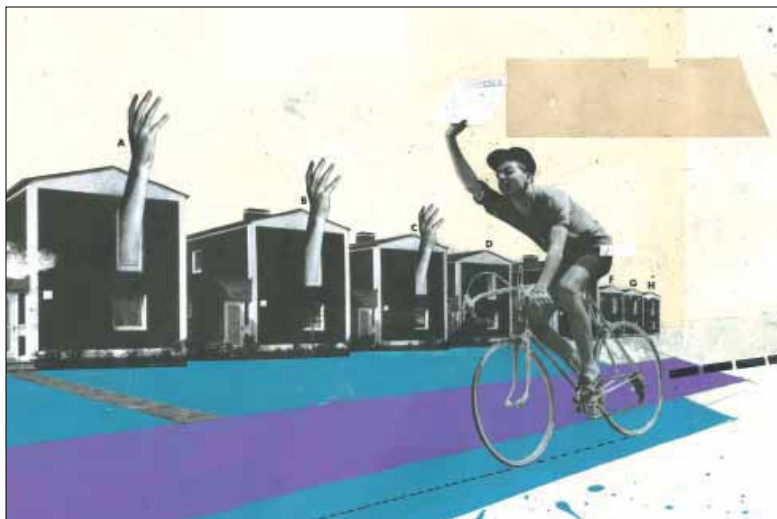
—Sebastian Rupley

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JOHN C. DVORAK

It is hard to blame declines in newspapers' readership on the Internet. There are other factors involved that nobody seems willing to discuss.



THE NEWSPAPER INDUSTRY IS losing readership. So let's blame the Internet, right? In fact, circulation began to decline around 1970, with the fading of the once powerful evening newspapers. TV news is to blame there. Circulation of morning and Sunday papers was still increasing gradually, but according to Journalism.org's *The State of the News Media 2004*, "By 1990... even the boost from a growing population was not enough to maintain how many newspapers were sold each day. Circulation began dropping at the rate of 1 percent every year from 1990 to 2002." The slide continues, and now the voice of Silicon Valley, the once powerful San Jose Mercury News, appears to be on the auction block.

It is hard to blame these declines, especially those from 1970 to 1990, on the Internet. There are other factors involved that nobody seems willing to discuss.

Syndication. Local papers have become cookie-cutter products loaded with syndicated material, mostly from *The New York Times*, *The Washington Post*, and the *Los Angeles Times*. Filling space in the *San Francisco Chronicle* with *New York Times* articles saves money, but many people now just get the *Times* instead.

The New York Times pulled off a marketing coup by syndicating essentially the whole paper to cheapskate publishers across the country. As columns were included, many local columnists were fired. This whetted the public's appetite for the *Times* and created a megabrand; it's one of the few growing papers in the U.S.

Boring professionalism. Joseph Pulitzer invented the idea of the journalism school before 1900. These institutions spread over time but didn't really take hold until the 1960s. By 1970, newspapers had begun to decline. Coincidence?

A sign quoting Pulitzer, posted at the Columbia School of Journalism as a kind of mantra, epitomizes the problem: "*Our Republic and its press will rise or fall together. An able, disinterested, public-spirited press, with trained intelligence to know the right and courage to do it, can preserve that public virtue without which popular government is a sham and a mockery.*"

The problem is the word "disinterested." It's the hallmark of journalism today and translates to bored and boring. Besides not giving a hoot about the story, the disinterested observer is often hoodwinked and subject to public-relations manipulations. Apparently, nobody sees this as a problem.

The disappearance of the paperboy. I was a paperboy as a kid. It was good money, and my knocking on doors seeking subscriptions or asking to be paid put a human face on the paper. Circulation grew with the population, but now newspapers must offer free subscriptions to sucker the rubes to renew. These offers come from Mumbai by phone, usually when you're at dinner. The bean counters love it. Some middle-aged man now delivers the paper out of an old Chevy.

No sense of humor. Today's papers have no collective sense of humor or fun. This is partly because of the J-schools and the need to be "professional." I haven't seen anyone laugh in a newsroom for decades. This may come from political correctness, or perhaps from some public-guardian ego trip. Maybe too many of the people working daily news beats are just duds.

While recently perusing 1950s-era *San Francisco Examiner* issues, I was shocked to find that the paper was crammed with small and interesting stories, many of which now would go into the reject folder. The paper had real life to it then—life that is now missing. Let's not blame the Internet for this. □

» MORE ON THE WEB

Can't get enough Dvorak? A new rant goes up every Monday at go.pcmag.com/dvorak. You can e-mail him directly at pcmag@dvorak.org.

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